



JOINT MANAGEMENT PLAN REVIEW RECOMMENDATIONS

From JMPR Working Groups
& Internal Teams
to the
Cordell Bank
SANCTUARY ADVISORY COUNCIL
July 2003



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Introduction and Background

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Background

Cordell Bank National Marine Sanctuary

The Cordell Bank National Marine Sanctuary was designated in 1989 to protect 397 square nautical miles (526 square miles) of marine habitat off the northern California coast. The main feature of the Sanctuary is Cordell Bank, an offshore granitic submerged island which emerges from the soft sediments of the continental shelf, with the upper pinnacles reaching to within 120 feet of the ocean's surface. The Bank is located about 43 nautical miles (nm) northwest of the Golden Gate Bridge and 18 nm west of the Point Reyes lighthouse, although the sanctuary boundary starts six miles offshore of Point Reyes.

Cordell Bank National Marine Sanctuary protects one of the most productive offshore areas in the United States. The unique combination of oceanic conditions and undersea topography creates an extremely productive marine environment, supporting a wide diversity of plants and animals. The prevailing California current flows southward along the coast, and the upwelling of nutrient-rich deep ocean water provides the foundation for a flourishing marine ecosystem. The site supports healthy resident populations and is a destination feeding ground for many migratory marine mammals, seabirds, and fishes. Invertebrates proliferate on the Bank and in the surrounding water column.

There are a variety of potential threats to the unique and sensitive ecosystem of Cordell Bank National Marine Sanctuary including impacts from fishing activities, wildlife viewing, and commercial shipping. Management of the Cordell Bank National Marine Sanctuary focuses on research and monitoring to evaluate the status and health of marine species, habitats and ecosystems, and provide critical information to resource managers. Education and outreach is used as a critical element in enhancing understanding and stewardship of this national treasure.

Overview of Jmpr Process

The National Marine Sanctuary Act requires the National Marine Sanctuary Program to periodically review sanctuary management plans to ensure the sanctuary sites continue to best conserve, protect, and enhance their nationally significant living and cultural resources. The Cordell Bank National Marine Sanctuary has not reviewed its management plan since its designation in 1989. Recent scientific discoveries, advancements in managing marine resources, and new resource management issues may not be adequately addressed in these existing plans.

The Sanctuary's management plan describes the objectives, policies, and activities for the CBNMS. It generally outlines the regulatory goals, describe boundaries, identify staffing and budget needs, set priorities and performance measures for resource protection, research and education programs. The management plan guides the development of future management activities.

The National Marine Sanctuary Program (NMSP) is reviewing the management plans of the Cordell Bank National Marine Sanctuary together with the Gulf of the Farallones and Monterey Bay National Marine Sanctuaries. These sanctuaries are located adjacent to one another, managed by the same program, and share many of the same resources and issues. In addition, all three sites share many overlapping interest and user groups. It is also more cost effective for the program to review the three sites jointly rather than conducting three independent reviews. Using a community-based process that continues to provide numerous opportunities for public input, the NMSP has identified priority resource management issues to be addressed in the management plans. Through the review process, management strategies, regulations and boundaries are also being evaluated.

Priority Issue Working Groups

Working Group Tasks and Products

This document contains recommendations developed by Sanctuary Advisory Council (SAC) working groups and internal teams that were tasked with identifying recommended strategies and activities that address specific priority issues identified during the scoping and prioritization phases of the Joint Management Plan Review. Meetings of the working groups focused on collaboratively developing a recommendation to the Sanctuary Advisory Council regarding their specific issue. The working groups met approximately once or twice a month between December 2002 and June 2003 and focused on the development of the action plans and recommendations in this report.

Working Group Selection and Role of CBNMS Staff

Working group members were selected individuals with a strong knowledge of the regional marine resources and management issues, have a strong interest in the Sanctuary, and who also have the ability to understand and respect diverse points of view. Staff and SAC members nominated experts from the community to participate in the working groups. CBNMS staff made the final selection of working group members after consideration of these nominations. Sanctuary staff also participated in the working groups as a stakeholder and as a source of information. As a stakeholder, the Sanctuary representative forwarded NOAA's point of view, provide advice on NOAA's authority and defined the range of acceptable outcomes for NOAA. All working group meetings were open to the public and observers were welcome.

CBNMS Working Groups

Cordell Bank National Marine Sanctuary held four working groups, two internal teams, and participated in five cross-cutting working groups. The CBNMS site-specific working groups were: Education, Impacts from Fishing Activities, Partnerships with Community Groups, and Research. The site-specific internal teams were Administration and Boundary Modifications. The cross-cutting working groups were: Ecosystem Monitoring, Maritime Heritage, and Community Outreach. The cross-cutting internal teams were: Boundary Modifications and Administration.

Working Group Decision Making

The working groups employed consensus-based decision-making to come to agreement on decisions critical to the direction and outcome of the group. Consensus building is a process used to find the highest level of agreement without dividing the participants into factions. Everyone in the group supports, agrees to, or can accept a particular decision. In the end, everyone can say "whether or not I prefer this decision above all others, I will support it because it was reached fairly and openly." Consensus building allows a group of diverse constituent representatives to work towards a unanimous decision on complex and controversial issues. This process requires full understanding of the recommendation by all parties and constructive negotiation on any points of disagreement. The Sanctuary values consensus-based recommendations because they represent a high level of commitment from diverse stakeholder groups.

Prioritization of Working Group Recommendations

Each working group prioritized their final recommendations into three priority levels ("Bins") through a ranking and binning process. This process conveys to the SAC and Sanctuary management the working group's priorities. Using consensus, the group evaluated each recommendation against six criteria. The resulting score was used to place the program in a "Priority Bin" between Bin 1 (the highest) and Bin 3 (the lowest).

The ranking criteria allowed the groups to consider important aspects of the recommendations such as the overall site benefits if the recommendation were implemented, the resources required for implementation, and the urgency and immediacy of the issue. When ranking the recommendations, Site Benefits and Urgency were considered more important and were weighted twice as heavy as the other three. The six ranking criteria were:

- Site Benefits
- Complexity (and resources such as expertise or equipment needed to resolve issue)
- Short-Term Feasibility (financial and staff resources needed to develop Action Plan)
- Long-Term Feasibility (financial and staff resources needed for Implementation of Action Plan over the next five years)
- Improving Coordination and Operations Between the Sites
- Urgency

The ranked recommendations were divided into 3 “Priority Bins.” Recommendations in Bin 1 and 2 were outlined in detail by the working group and forwarded to the SAC as full strategies and actions. Recommendations in Bin 3 generally required many resources and/or conveyed minimal site benefits. These recommendations were not outlined but are forwarded as-is to the SAC. It is important to note that recommendations which fell into a lower or higher bin than the group felt appropriate were transferred and noted in the ranking matrix (i.e. 3/2 means it ranked as Bin 3 but the group felt it really belonged in Bin 2). *(Please see Appendix C for detailed description of the ranking and binning process)*

About this Document

This document contains recommendations from Joint Management Plan Review working groups and internal teams to the CBNMS Advisory Council. The recommendations describe how programs and projects will be implemented, the various steps in the program or project, products to be produced, who will be accomplishing the work (CBNMS or another group), how long it should take, the resources necessary for implementation, and the recommended partners that CBNMS will be working with during implementation. Following is a brief description of the components of each recommendation.

Working Group Members- A list of the active working group members and their affiliation.

Working Group Meetings- Meeting-by-meeting overview of topics and activities undertaken by the working group

Issue/Program Statement- The working group collectively drafted an issue/program to describe why this issue is a problem that should be addressed by the Sanctuary.

Issue Description- Detailed characterization of the issue including its current status, how the Sanctuary is currently addressing it, and efforts by other organizations to address the issue.

Jurisdictional Setting- A summary of which agencies and organizations have jurisdiction over activities and geographic locations of concern in addressing the issue. This does not apply for programmatic recommendations (Education, Research, and Partnerships with Community Groups)

Issue/Program Goal- The working group drafted the issue/program goal or goals describing the long-term desired outcome of the Sanctuary addressing the issue.

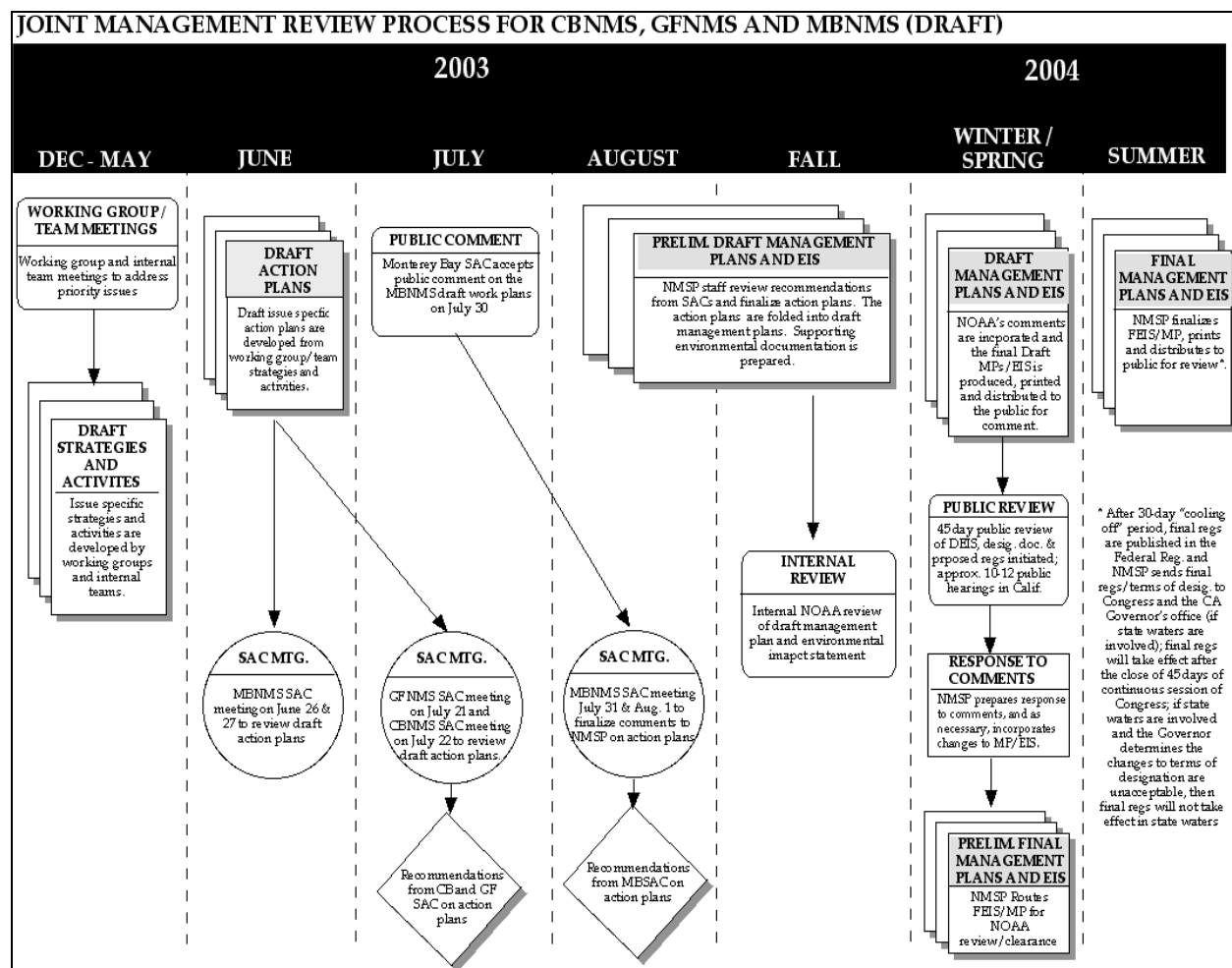
Issue/Program Objectives- The working group developed issue/program objectives to identify measurable outcomes that will be achieved in a specific time frame to help accomplish the goal(s)

Recommendations- The recommendations described in this document are those of the working group address to the Sanctuary Advisory Council. The recommendations were built from information extracted from the inventory matrix (see below) which was assembled by the working group.

Inventory Matrix- The inventory matrices were created by the working group as a raw inventory of all proposed programs, prior to prioritization. It includes a description of the program, potential partners and information sources to aid implementation, and a list of products to be produced. The Inventory and Ranking Matrices are included where available to track the derivation of the final written recommendations.

Ranking Matrix- The ranking matrices present the priority assigned to each of the programs by the working group and the rationale behind the rankings. The ranking score for each criteria and corresponding bin are listed here. In some cases, the working groups made modifications or refinements between the inventory and the ranking matrix.

JMPR Timeline



Next Steps

The National Marine Sanctuary Program will prepare the Draft Management Plans (DMP) and Draft Environmental Impact Statement (DEIS) after receiving input and recommendations from the Sanctuary Advisory Councils for each Sanctuary. The DMP/DEIS is expected to be released in January 2004 for public review and comment. Following review and possible changes to the management plan, a Final Management Plan should be released in the Summer of 2004.

Public Comment

Members of the public who wish to comment on the recommendations may:

1. Contact their representative on the Advisory Council (See Appendix A)
2. Attend the July 17, 2003 9am-5pm CBNMS Advisory Council Meeting
Public Comment Period 2:30-3:00pm
Cypress Grove Preserve
Highway 1
Marshall, CA 94940

Additional Information

For more information regarding these Recommendations, the Joint Management Plan Review, SAC meeting times and location of meetings go to the website (<http://sanctuaries.nos.noaa.gov/jointplan/>) or contact:

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SITE-SPECIFIC
Working Group
RECOMMENDATIONS

- I.
Education
- II.
Impacts from Fishing Activities
- III.
Partnerships with Community Groups
- IV.
Research



SITE-SPECIFIC ISSUE:

EDUCATION

Recommendation to the CBNMS Sanctuary Advisory Council
from the CBNMS Education Working Group

WORKING GROUP MEMBERS

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Doreen Moser,
The Marine Mammal Center Educator

Phyllis Schmidt,
Sonoma county schoolteacher

Jennifer Stock,
CBNMS Education Specialist

Michelle Chow,
Bodega Marine Laboratory

WORKING GROUP MEETINGS

MEETING 1:

- Overview of Joint Management Plan Review Process
- Decision Making Process

MEETING 2:

- Development of Problem Statement, Issue Characterization, Goals and Objectives
- Overview of Current Sanctuary Education Programs (CBNMS and GFNMS)

MEETING 3:

- Overview of other organization's education programs
 - The Marine Mammal Center
 - Point Reyes National Seashore Association
- Overview of NMSP National Education Initiatives
- Overview of 2002 Ocean Educators Meeting

MEETING 4:

- Continue overview of other organization's education programs
 - Northern and Southern sections of the Golden Gate National Recreation Area
 - Point Reyes National Seashore

MEETING 5:

- Presentation on Monterey Bay National Marine Sanctuary's current education programs
- Presentation on teaching science to a multicultural audience

MEETING 6:

- Inventory of Existing Programs and Building of Options for the CBNMS Management Plan

MEETING 7:

- Prioritization and Ranking of Management Options
- Flushing Out details of Priority Management Options

PROGRAM STATEMENT

Cordell Bank NMS needs to develop a long-term education strategy to raise the public's awareness about the Sanctuary's ecosystem; develop awareness about the resource management issues affecting the Sanctuary and regional environment; and encourage public involvement.

PROGRAM DESCRIPTION

Education programs are designed to enhance public awareness and understanding of the Sanctuary and its resources, and build stewards to take on the responsibility of protecting these special places. The development of effective and coordinated education programs is a priority for all National Marine Sanctuaries. CBNMS will work to develop a long-term coordinated education strategy to raise the public's awareness about the local and regional marine environment and how to become involved in the sanctuaries. CBNMS and GFNMS will collaborate to service common audiences.

CBNMS will use education as a resource management tool to address specific priority resource management issues identified in the management plan review process. Education is essential to achieving many of the Sanctuary's management objectives, and is used to both complement and promote other Sanctuary programs such as research, monitoring and enforcement by communicating information about these programs to the public. Developing partnerships with other agencies, institutions and organizations is the key to success in leveraging the Sanctuary's limited financial and staff resources and maximizing effective, well-coordinated education strategies.

EDUCATION GOALS

- a) Education is a management tool used to help protect the Sanctuary's resources.
- b) Education complements and promotes other Sanctuary programs such as research, monitoring and enforcement.
- c) Education continually reaches broader audiences to create an informed and involved public.

EDUCATION OBJECTIVES

1. Take a hierarchal approach by developing awareness, building knowledge base, changing behavior, and building stewardship.
2. Increase communication and coordination among Sanctuary education and outreach programs and partners.
3. Develop programs to target content builders, user/impact groups, influencers, and decision makers.
4. Develop programs that target diverse audiences including multicultural, socio-economic, and various age and gender groups.

EDUCATION RECOMMENDATIONS

■ OBJECTIVE 1: Take a hierarchical approach by developing awareness, building knowledge base, changing behavior, and building stewardship.

STRATEGY ED-1: *Utilize volunteers to assist Sanctuary staff in communicating Sanctuary messages.* (also see Strategy ED-17, Action 17.2)

Action 1.1 Develop a program to train volunteers to deliver outreach and education messages.

- A. Develop a volunteer Sanctuary Naturalist Program to train volunteers to deliver outreach and educational messages, interpretation on fishing and/or whale watching boats, and interpretive programs to schools and community groups.
- B. Explore potential partnership with GFNMS.
- C. Advertise, recruit, train, and place volunteers.
- D. Evaluate program and continuously add new training and volunteering opportunities.

Priority Level: 1

Partners: GFNMS, PRNS, ACR, Stewards of Slavianka, Russian River Stewards

Implementation Timeline: year 1- define goals, develop plan, secure funds, identify partners; year 2- advertise, recruit, train, and assign first volunteer class; year 3- evaluate, modify, and expand

Products: Training manual, advertising materials, patches/ volunteer logo wear

STRATEGY ED-2: *Expand the reach of CBNMS education by partnering with existing interpretive organization/agencies to incorporate CBNMS messages into their programs.* (also see Strategy ED-12.1.A, Strategy ED-14)

Action 2.1 Train volunteers and employees of existing interpretative and volunteer organizations to deliver and incorporate CBNMS educational messages through their programs.

- A. Identify and survey potential organizations for needs and willingness to partner with CBNMS to distribute education and outreach messages.
- B. Develop general training presentation on CBNMS to reach a variety of education and interpretation audiences.
- C. Create and distribute handout and/or training manual of talking points about CBNMS.
- D. Maintain regular communication with partners and give updated presentations and handouts to staff and volunteers as needed.

Priority Level: 1

Partners: GFNMS, PRNS, Stewards of Slavianka, TMMC, FMSA, ACR, BML, SeaGrant Extension

Implementation Timeline: Begin program during year 2 of - contact partners, develop

and distribute presentation and handouts; year 3- on-going

Products: volunteer handbook, presentations, handouts, videos, activity kits, outreach CD, kits including hands-on activities and models of whales and seabirds

STRATEGY ED-3: *Increase awareness and knowledge of CBNMS by providing educational materials to teachers, schools, and other educational organizations.*

(also see Strategy ED-12.1.B, Strategy ED-17.2.B)

Action 3.1 Develop classroom and field kits for teachers to enhance efforts to educate about CBNMS.

- A. Survey educators for their interests and needs regarding kits including where to house kits and how many to distribute. Develop classroom and field kits that satisfy state science curriculum standards and teacher needs. Kits will include curriculum(s), artifacts, videos, pictures, activities, props, and additional references.
- B. Develop plan for promotion and distribution.
- C. Develop abbreviated training for teachers on how to borrow and use the kits (during inservice and/or preservice).

Priority Level: 1

Partners: PRNS, GFNMS, FMSA, MARE (Lawrence Hall of Science)

Implementation Timeline: year 1- communicate with teachers about needs, develop plan for advertising, year 2-develop kits, distribute

Products: Kits including videos, artifacts, and curriculum; advertising materials

STRATEGY ED-4: *Increase awareness of CBNMS through interpretive signage and exhibits throughout the region.*

(see also Strategy ED-16, Strategy ED-17.2.C)

Action 4.1 Install interpretive signage at key field locations and place exhibits in museums and visitor centers throughout Marin, Sonoma, and southern Mendocino Counties.

- A. Complete signage and exhibits plan with Booze-Allen Contractors, secure funding, and finalize messages, content, and locations. Exhibits and signs will demonstrate the connection between local watersheds and ocean health and connect CBNMS to the audience's every day life.
- B. Construct and install signs and exhibits using provided text and images. Begin with highest priority locations.
- C. Continue installing additional exhibits and signage.

Priority Level: 1

Partners: Booze-Allen, PRNS, BML, GFNMS, CAS, CA State Parks

Implementation Timeline: See signage plan

Products: exhibits and signs

STRATEGY ED-5: *Increase awareness and knowledge of CBNMS by educating about current research at Cordell Bank.*

Action 5.1 Link research to classrooms by inviting local teachers onto CBNMS research cruises to learn about current research activities and pass the information on to their students.

- A. Re-establish Teacher-at-Sea program to provide local teachers with an in-depth experience of a research cruise on the NOAA R/V MacArthur. Offer opportunity more than once per year using Sanctuary vessel for day trips.
- B. Incorporate local telepresence into program by linking teacher with his or her school using phone and/or web link.
- C. Explore feasibility of making Teacher-at-Sea a joint program between CBNMS, GFNMS, and MBNMS.

Priority Level: 1

Partners: GFNMS, MBNMS, local schools, NOAA

Implementation Timeline: year 1- develop plan, advertise, select teacher, place one teacher on a cruise, evaluate; year 2- repeat program, explore ways to expand including day trips using Sanctuary vessel, make Teacher-at-Sea an annual program and place a teacher on every cruise.

Products: curriculum, products from teacher (write up, curriculum, classroom kit), news articles (press coverage)

STRATEGY ED-6: *Increase awareness and knowledge of CBNMS through an engaging and educational lecture series.*

(also see Strategy ED-17.2.D)

Action 6.1 Develop a CBNMS lecture series (independent from GFNMS) focusing on regional natural history and ecosystem management topics. Coordinate with GFNMS and MBNMS on themes and audiences.

- A. In the short term, coordinate with GFNMS and FMSA to conduct lectures on CBNMS.
- B. In the long-term, hire a contractor to conduct a yearly independent CBNMS lecture series targeting diverse audiences, locations, and topics. Coordinate with other lecture series such as PRNS, CAS, and American Cetacean Society.

Priority Level: 1

Partners: GFNMS, FMSA, PRNS, PRNSA, BML

Implementation Timeline: year 1- develop plan for independent lecture series; year 2- implement

Products: lectures, advertising materials

STRATEGY ED-7: *Utilize local and national media to increase awareness and knowledge of CBNMS resources and activities.*

(also see Strategy ED-12.1.D, Strategy ED-17.2.E)

Action 7.1 Establish regular media coverage and lines of communication to media.

- A. Complete media and communications plan.
- B. Define staff's roles in working with the media and have entire staff complete media training every two years.
- C. Develop a media plan every year for upcoming events and to identify and create media opportunities.

- D. Develop a regular Sanctuary spot on local radio station (KWMR). Model after “Star Date” and “Zoo Monday”.
- E. Develop relationships with local media personalities.
- F. Review site plan on how to issue press releases and issue regular press releases.
- G. Develop and distribute press kits at every event and as appropriate.

Priority Level: 1

Partners: NMSP Headquarters, PRNS, GFNMS, FMSA, MBNMS, CBNMS SAC

Implementation Timeline: year 0- complete media plan and staff training; year 1- establish relationship with press, media opportunities, press releases, develop and implement plan for Sanctuary radio spot; year 2+ on-going

Products: media/ communications plan, media materials, press kit, Sanctuary radio spot, press releases

STRATEGY ED-8: *Increase awareness and knowledge of CBNMS by attending local fairs and events.* (also see Strategy ED-17.2.H)

Action 8.1: Streamline participation in local fairs and events by attending fairs which best satisfy outreach goals.

- A. Evaluate current participation in fairs and events. Prioritize events and focus on most beneficial.
- B. Explore ways to employ volunteers or contractors to attend events in place of staff. (see Strategy ED-1)
- C. Create display about on-going CBNMS research.

Priority Level: 1

Partners: GFNMS, FMSA, MBNMS

Implementation Timeline: year 1- evaluate current participation and prioritize options; year 2-3- develop new display

Products: Display, handouts

STRATEGY ED-9: *Increase awareness and knowledge about CBNMS through adult education.*

(also see Strategy ED-12.1.E, Strategy ED-17.2.F)

Action 9.1 Sponsor adult education classes in local community colleges and continuing education programs.

- A. Develop program to educate adults about CBNMS through a credited college course (College of Marin, Santa Rosa Junior College) and/or informal continuing education classes (PRNSA) on science and the natural resources of CBNMS. Investigate existing models such as CINMS to identify appropriate format and structure.
- B. Investigate expanding program to online or teleconferencing courses.

Priority Level: 1

Partners: CAS, PRNSA, Berkeley Extension, Stanford Extension, College of Marin, Santa Rosa Junior College

Implementation Timeline: (Action may be started in year 2 or 3 of management plan);

year 1- determine appropriate and feasible format, develop plan; year 2- hold first class; year 3-4 - investigate expansion possibilities

Products: advertisements, course schedule, lesson plan, course, handouts, field opportunities

Action 9.2 Conduct field seminars with Point Reyes National Seashore Association on natural history and science of CBNMS.

- A. Continue to sponsor field seminar with PRNSA on the natural history of CBNMS.
- B. Explore holding additional field seminars that include seabird and marine mammal identification culminating in a field trip to Cordell Bank.

Priority Level: 1

Partners: PRNSA, naturalists

Implementation Timeline: year 0- sponsor first seminar; year 1- evaluate, modify, and continue

Products: advertisements, handouts, photographs

STRATEGY ED-10: *Develop portable products to educate a broad audience about the resources and activities of CBNMS.*

(Also see Strategy ED-17.2.G)

Action 10.1 Develop a documentary video on marine life of CBNMS using existing footage of seabirds, submersibles, and marine mammals.

- A. Contract a professional videographer to acquire footage of surface activities and interview to combine it with existing underwater footage and create a video for all audiences. Messaging will focus on general awareness of the resources of the Sanctuary and how to ensure protection of the Sanctuary.
- B. Market and distribute video to schools, visitor centers, and libraries.

Priority Level: 1

Partners: videographer

Implementation Timeline: Ideally this would be a product for the 20th Anniversary of CBNMS in 2009. Contact videographer in year 1.

Products: video, advertising materials

Action 10.2 Develop an interactive CD ROM designed for educational use.

- A. Develop a general plan for CD ROM including identification of target audience, themes, and an engaging storyboard. Incorporate current underwater footage and research discoveries within storyboard.
- B. Hire a contractor to develop CD ROM using Sanctuary- created storyboard, text, and images.
- C. Develop plan for production, distribution and duplication for target audience(s). Incorporate into curriculum (kits) and distribute.

Priority Level: 1

Partner: Contractor

Implementation Timeline: year 1-plan; year 2- hire contractor; year 3- complete final product and distribute
Products: Interactive CD ROM

■ **OBJECTIVE 2: Increase communication and coordination among Sanctuary education and outreach programs and partners.**

STRATEGY ED-11: *Develop a standing Education Working Group of the Sanctuary Advisory Council.*

Action 11.1 Create a broad-based working group of education experts from local schools, education institutions, and agencies that can advise the Sanctuary on the implementation of a comprehensive CBNMS education program.

- A. Provide on-going advice to the Sanctuary Education program on current education and outreach activities.

Priority Level: 2

Partners: local schools, education institutions, and agencies

Implementation Timeline: Group formed and charter drafted by end of year one, on-going thereafter

STRATEGY ED-12: *Expand the reach of CBNMS education by coordinating with education groups to educate about CBNMS.*

Action 12.1 Develop partnerships with other education programs to achieve Sanctuary education goals. Such collaborations will include: (Also see CBNMS Partnerships with Community Groups Action Plan)

- A. Partner with existing interpretive organizations to incorporate CBNMS messages into their programs. (see Strategy ED-2)
- B. Provide educational materials such as classroom and field kits to teachers, schools, and other educational organizations. (see Strategy ED-3)
- C. Work with local museums, visitor centers, and other public venues in Marin, Sonoma, and Mendocino Counties to place permanent or traveling signs and exhibits in their facilities. (see Strategy ED-4)
- D. Partner with media to increase awareness and knowledge of CBNMS resources and activities. (see Strategy ED-7)
- E. Sponsor adult education classes in local community colleges and continuing education programs. (see Strategy ED-9, Action 9.1)
- F. Conduct field seminar with Point Reyes National Seashore Association on natural history and science of CBNMS. (see Strategy ED-9, Action 9.2)

■ **OBJECTIVE 3: Develop outreach and education programs to target content builders, user/impact groups, influencers, and decision makers.**

STRATEGY ED-13: *Develop portable products to educate a broad audience about the resources and activities of CBNMS.* (See Strategy ED-10)

Action 13.1 Develop a documentary video on marine life of CBNMS using existing footage of seabirds, submersibles, and marine mammals.

Action 13.2 Develop an interactive CD ROM designed for educational use.

STRATEGY ED-14: *Expand the reach of CBNMS education by partnering with existing interpretive organizations to incorporate CBNMS messages into their programs.*
(Also see Strategy ED-2, Strategy ED-12)

Action 14.1 Train volunteers and employees of existing interpretative and volunteer organizations to deliver and incorporate CBNMS educational messages through their programs.

- A. Identify and survey potential organizations for needs and willingness to partner with CBNMS to distribute education and outreach messages.
- B. Develop general training presentation on CBNMS to reach a variety of education and interpretation audiences.
- C. Create and distribute handout of talking points about CBNMS.
- D. Maintain regular communication with partners and give updated presentations and handouts to staff and volunteers as needed.

Priority Level: 1

Partners: GFNMS, PRNS, Stewards of Slavianka, TMMC, FMSA, ACR, BML, SeaGrant Extension

Implementation Timeline: Begin program during year 2 - contact partners, develop and distribute presentation and handouts; year 3- on-going

Products: volunteer handbook, presentations, handouts, videos, activity kits, outreach CD, kits including hands-on activities and models of whales and seabirds

STRATEGY ED-15: *Increase awareness and knowledge of CBNMS by providing educational materials to teachers, schools, and other educational organizations.*
(Also see Strategy ED-3, Strategy ED-12.1.B, Strategy ED-17.2.B)

Action 15.1 Develop classroom and field kits for teachers to enhance efforts to educate about CBNMS.

- A. Survey educators for their interests and needs regarding kits such as where to house kits and how many to produce. Develop classroom and field kits that satisfy state science curriculum standards and teacher needs. Kits will include curriculum(s), artifacts, videos, pictures, activities, props, and additional references.
- B. Develop plan for promotion and distribution.
- C. Develop abbreviated training for teachers on how to use the kits (during inservice and/or preservice).

Priority Level: 1

Partners: PRNS, GFNMS, FMSA

Implementation Timeline: year 1- communicate with teachers about needs, develop plan for advertising, develop kits, distribute

Products: Kits, advertising materials

STRATEGY ED-16: *Increase awareness of CBNMS through interpretive signage and exhibits throughout the region.*

(Also see Strategy ED-4, Strategy 17.2.C)

Action 16.1 Install interpretive signage at key field locations and place exhibits in museums and visitor centers throughout Marin, Sonoma, and Mendocino Counties.

- A. Complete signage and exhibits plan with Booze-Allen Contractors, secure funding, and finalize messages, content, and locations. Exhibits and signs should demonstrate the connection between local watersheds and ocean health and should connect CBNMS to the audience's every day life.
- B. Construct and install signs and exhibits using supplied text and images. Begin with highest priority locations.
- C. Continue installing additional exhibits and signage.

Priority Level: 1

Partners: Booze-Allen, PRNS, BML, GFNMS, CAS

Implementation Timeline: See signage plan

Products: exhibits and signs

■ OBJECTIVE 4: Develop programs that target diverse audiences including multicultural, socio-economic, and various age and gender groups.

STRATEGY ED-17: *Conduct an audience demographics assessment to identify underserved audiences of CBNMS, and to guide the future of its education programs.*

Action 17.1: Determine demographics of CBNMS' audiences in Marin, Sonoma, and southern Mendocino counties.

- A. Approach other government agencies, education institutions and organizations in the region for potential partnerships and/or data sources.
- B. Hire contractor to carry out assessment. Data to be compiled through database searches should include age, gender, education level, work force, and religion demographics; language populations; multicultural groups; socio-economic ranges and regions; environmental values; and current knowledge of the marine environment and human connections to the ocean.
- C. From the findings of this assessment, evaluate the need for CBNMS multi-cultural programs such as Merito; if appropriate, adopt and/or adapt Merito, or develop a new program.

Action 17.2 Based on results of the demographic assessment, re-evaluate and adjust education programs as necessary to target all CBNMS audience groups.

- A. Sanctuary Naturalists (see Strategy ED-1): recruit volunteers with diverse ethnic, cultural, age, and language backgrounds. These volunteers can deliver outreach and education messages to diverse audiences not otherwise reached, such as non-English speaking populations.
- B. Teacher Kits (see Strategy ED-3): Survey teachers in diverse school districts for their interests and needs. Design marketing plan towards a broad range of multicultural, socio-economic, gender, and age groups.
- C. Signage and Exhibits (see Strategy ED-4): Consider demographics of CBNMS audiences when deciding content and location of signage and exhibits. If necessary, include multilingual translations.
- D. Lecture Series (see Strategy ED-6): Hold lecture series in socio-economic and racially diverse locations. Identify topics of interest to target audiences and market lectures to those audiences.
- E. Media Plan (see Strategy ED-7): Include diverse audiences when developing communications and media plan.
- F. Adult Education (see Strategy ED-9): Consider diverse and low-income schools when selecting schools for adult education courses about CBNMS.
- G. Sanctuary video and CD-ROM (see Strategy ED-10): Consider demographics of CBNMS audiences when determining content of video and CD ROM. If necessary, create multilingual versions.
- H. Outreach Fairs and Events (see also Strategy ED-8): Consider diversity of audience when determining yearly outreach fair attendance.

Priority Level: 1

Partner: GFNMS, PRNS, GGNRA, NMFS, Sonoma Water Districts, County and city agencies

Implementation Timeline: year 1- work with partners, background research, write RFP, hire contractor; year 2- implementation of study (roughly 3 months for data collection); year 3- use report to plan/ revise education programs accordingly

Products: final demographic report and recommendations for development and revision of current CBNMS education methods/ approach

Inventory Matrix: Cordell Bank NMS Education

Problem Statement: Cordell Bank NMS needs to develop a long term education strategy to raise the public's awareness about the Sanctuary's ecosystem; develop awareness about the resource management issues affecting the Sanctuary and regional environment; and encourage public involvement in the Sanctuary.

Goals:

- a) Education is a management tool used to help protect the Sanctuary's resources
- b) Education complements and promotes other Sanctuary programs such as research, monitoring and enforcement.
- c) Education continually reaches broader audiences to create an informed and connected public.

Objective 1: A 1. develop awareness
 A 2. build knowledge base
 A 3. change behavior
 A 4. build stewardship

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Internship with Park Scientists (PCLC)	Intern position through PCLC - could partner an intern with research team at CBNMS to expose interns to marine science as integral part of ecosystem. Intern could then do outreach projects on their project/ experiences at CBNMS. (High schools/ Community Colleges)	Lead: Pacific Coast Learning Center (PCLC)- Christie Anastasia Partners: CBNMS	PRNS	Weblog - intern logs about their experiences with different researchers, intern outreach component, use log as media piece
Student Ocean Council	Create a club for local students who are already participating in Sanctuary programs to share their experiences and gain additional experiences through field trips, trainings, and career exploration. Expose the students to areas of science they are not normally exposed to (Gray's Reef model). Also develop youth volunteer summit with partners, as opportunity for youth to share their volunteer experiences.	Lead: CBNMS	GFNMS, Kids Conference	
Telepresence	Similar model to JASON Project. Live uplink	Lead: CBNMS	JASON,	

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
	opportunity for students to communicate directly with researchers or teacher-at-sea. This would be an on-going project (annually), but could start with doing on a CBNMS cruise. Adopt a Sonoma low income school.	Partners: Bay Model, TMMC, BML	Exploratorium, Teacher on the Trail (Iditirod), Teacher at Sea, Marine Science Institute	
Naturalist Certification Program	Develop naturalist certification program that will train existing naturalists that do trips to CB and GF about the sanctuary.	Lead: GFNMS Partners: CBNMS, Oceanic and other vendors, PRNS	NAI	Training manual, brochures, posters
Sanctuary Naturalist	Recruit and train volunteers to be able to deliver outreach and educational activities, interpretive programs to schools and community groups. Train volunteers to interpret on fishing and/ or whale watching boats.			
Educating Partners	Train other agency or organization employees to interpret for the Sanctuary.	Lead: CB-Jenny Partners: TMMC, PRNS, GFNMS, Stewards of Slavakia, PRNS, TMMC		Volunteer handbook, slideshows, videos, activity kits, CD
General Classroom curriculum (K-12) (like PRNS)	Working off limpets- develop curriculum materials for K-12 (or for grade specific depending on standards). Offer to teachers in workshop, adhere to state or national standards. Demonstrate to the public the connections between watershed and ocean processes. Connect CBNMS to other local environments.	Lead: CBNMS- Hire a curriculum writer! Don't do it in house	PRNS, MARE	Curriculum binders K-12, teacher workshop

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Classroom/ Field Kit	Provide videos, slides, curriculum, information for teachers to check out (free or charge). Could be lent out to other organizations. Should be linked to curriculum.	Lead: CBNMS	PRNS	Video, slides, curriculum, general info posters
CBNMS Website	Expand CB website for educational curriculum, scientific data and results. Consider bilingual webpages. Geared for multiple user groups.	Lead: CBNMS Partners: other NMSs.		Website and Internet access to CBNMS activities
Market CB education programs/ resources	Include CBNMS education programs in educational publications, such as Marine Science Field Trips- MARE Teacher's Guide, websites and other venues.	Lead: CBNMS Partners: Lawrence Hall of Science- MARE Program- Craig Strang	CCC Guide	Publications
Exhibits/ kiosks	Exhibits development and signage on CB and GF (Ex: residents and migratory species) at existing space at Point Reyes, CA Academy, Bodega Bay. Key coastal locations. Traveling exhibits. Demonstrate to the public the connections between watershed and ocean processes. Connect CBNMS to other local environments.	Lead: CBNMS Partners: PRNS, CA Academy, BML, Oakland Museum	NMSP	Kiosk, interpretive signage, discovery stations, traveling exhibits
Teacher at Sea	CBNMS Teacher at Sea would bring teachers out on research projects on the water either for yearly cruise or as Sanctuary vessel becomes operational (day operations). Could be linked with telepresence.	Lead: NOAA/ CB- Jenny and Dan Partners: GF and MB		Curricula- product from teacher involvement News articles- relay experience to NOAA, NMS, local
ROV Building competition	Support local teachers to attend MATE ROV workshop, support locally at schools, and eventually have regional sanctuary ROV competition	Lead: MATE, Diedre Sullivan Partners: MB, GF, BML (?)	MATE	Curricula, videos

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Sanctuary Lecture Series	Lectures that address ecosystem management and resources. Diversify- both audiences and location - specifically target Sonoma and West Marin and some topics specific to CBNMS (separate from GFNMS). Coordinate with other group's lecture series (PRNS, CA Academy, American Cetacean Society)	Lead: CBNMS, Jenny Partners: (GF, MB)		Posters, advertising
Media Coverage	Establish lines of communication to media for: Research events (including ROV programs with student involvement, Radio/ TV shorts ("Zoo Monday", "Star Date"), student participation projects, student articles. Create Sanctuary Spot on radio.	Lead: CBNMS Partners: Local radio and television stations	PRNS radio spots, radio spots on KPFA, NPR	Press releases, Video and audio short pieces, webpage, listserve, newspaper articles, PSAs
LIMPETS- network amongst 5 NMSs	HS student monitoring programs, currently sandy beach and intertidal (currently: lack staff to further support and host workshops on these topics). Would like to further participate with limpets by creating offshore protocols, database to have students monitor offshore ecosystem (buoys, satellite info, submersible and ROV footage). Similar model for local schools.	Lead: NMSP (West Coast NMSs) Partners: 5 West Coast Sanctuaries		Workshops, web support, curriculum, instructional handbook
Outreach Fairs	Participate in community fairs/ events with display booth, activities, materials. (currently attend many events with GF, assess which ones are most appropriate, if naturalists/ volunteers were trained could attend many more than we currently do, develop display that features all 3 NMS in region). Evaluate and prioritize based on location, attendance and fee.	Lead: CB- Jenny Partners: GF, MB		
CBNMS Sanctuary Association	Develop Association to support the Sanctuary monetarily, news, media, public awareness, etc			

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
(assign to Community Partnerships Working Group)				
TMMC- Marine Science discovery program	Highlights different areas of marine science topics. CB research could fit into this program, use of ROV/ submersible footage and monitoring	Lead: TMMC- Doreen/ Jenny, CBNMS		Videos, CD, curricula
Adult Education Courses	Develop courses with existing continuing education groups (PRNSA field seminars, College of Marin, Santa Rosa Junior College). Feature science and natural resources of the CBNMS. Consider potential for online or teleconferencing courses.	Lead: PRNSA- Christine Fontaine		Field trip to Sanctuary
Visitor Space	Develop CBNMS visitors center/education office (exhibits and distributed information). Also develop off-site visitor spaces with local partners to increase CBNMS visibility and public awareness	Lead: CBNMS- Jenny Partners: PRBO, BML, NPS, FMSA, Romberg/ Tiburon Center		Posters, videos, brochures
Sustainable Fishing (and gear types) Workshop (assign to Maritime Heritage Working Group)	Provide public/consumers knowledge base for making sustainable fishing decisions. Reach broader audience. Tie into curriculum.	Partners: GFNMS, MBNMS, Seafood Alliance		

Objective 2: Increase communication and coordination among Sanctuary programs and partners

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
CB Natural History Cruises	Few groups offer trips to CBNMS. Partner with boat owners (Rick Powers, Mick Menigoz) and market to general public or special interest groups	Lead: CBNMS Partners: Boat Owners		

Objective 3: Develop programs to target content builders, user/impact groups, influencers, and decision makers.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Smart Boaters Program (Dock Walkers)	Expand visiting boater education, oil spill absorbent distribution program to SF and Bodega Bay	Lead: CBNMS	Save Our Shores docent program in Santa Cruz	Brochures, kits for boaters
CBNMS Poster	Similar to marine mammal poster for GFNMS and MBNMS, Bathyposter - distribute at fairs, events and to teachers	Lead: contract outside source		Poster series and individual posters (artistic or field guide quality)
CBNMS Video	Documentary video on marine life of CBNMS (seabirds, submersible, marine mammals). For distribution to public schools, multi-purpose clips.	Lead: contract outside source (Discovery Channel)	Kip Evans	
Interactive CD ROM	Develop interactive CD ROM geared for educational use. Include video clips of Cordell Bank, its inhabitants, and interviews with researchers.			

Objective 4: Programs will target diverse audiences including multicultural, socio-economic, ages, and gender groups.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATI ON SOURCES	PRODUCTS
Evaluation of Education Programs	Evaluate past, present and future education programs to assess whether programs efficiently meet educational goals and student and public needs.	Lead: NMSP	Candice Brown, NMSP	Brochures, videos, posters
Audience needs assessment	Assess demographics of Marin, Sonoma, and Southern Mendocino counties and their needs in terms of marine education. Adopt and adapt programs like Merito as appropriate.	Lead: CBNMS Partners: GFNMS, MBNMS, PRNS	MBNMS	Needs assessment.

Ranking Matrix: Cordell Bank NMS Education

Objective 1: A 1. develop awareness
 A 2. build knowledge base
 A 3. change behavior
 A 4. build stewardship

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Internship with Park Scientists (PCLC)	Intern position through PCLC - could partner an intern with research team at CBNMS to expose interns to marine science as integral part of ecosystem. Intern could then do outreach projects on their project/ experiences at CBNMS. (High schools/ Community Colleges)	C	B	A	A	C	B	CBA ACB	15=2
Student Ocean Council	Create a club for local students who are already participating in Sanctuary programs to share their experiences and gain additional experiences through field trips, trainings, and career exploration. Expose the students to areas of science they are not normally exposed to (Gray's Reef model). Also develop youth volunteer summit with partners, as opportunity for youth to share their volunteer experiences.	B	C	B	B	B	C	BCB BBC	13=3
Telepresence	Similar model to JASON Project. Live uplink opportunity for students to communicate directly with researchers or teacher-at-sea. This would be an on-going project (annually), but could start with doing on a CBNMS cruise. Adopt a Sonoma low income school.	A	B	B	C	B	A	ABB CBA	19=1
Naturalist Certification Program	Develop naturalist certification program that will train existing naturalists that do trips to CB and GF about the sanctuary.	B	B	A	B	B	B	BBA BBB	17=2

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Sanctuary Naturalist	Recruit and train volunteers to be able to deliver outreach and educational activities, interpretive programs to schools and community groups. Train volunteers to interpret on fishing and/ or whale watching boats.	A	C	B	C	A	A	ACB CAA	19=1
Educating Partners	Train other agency or organization employees to interpret for the Sanctuary (Stewards of Slavakia, PRNS, TMMC).	A	A	A	A	B	A	AAA ABA	23=1
General Classroom curriculum (K-12) (like PRNS)	Working off limpets- develop curriculum materials for K-12 (or for grade specific depending on standards). Offer to teachers in workshop, adhere to state or national standards. Demonstrate to the public the connections between watershed and ocean processes. Connect CBNMS to other local environments.	B	C	C	B	B	B	BCC BBB	14=3
Classroom/ Field Kit	Provide videos, slides, curriculum, information for teachers to check out (free or charge). Could be lent out to other organizations. Should be linked to curriculum.	A	B	A	B	B	A	ABA BBA	21=1
CBNMS Website	Expand CB website for educational curriculum, scientific data and results. Consider bilingual webpages. Geared for multiple user groups.	A	B	B	C	C	A	ABB CCA	18=2
Market CB education programs/ resources	Include CBNMS education programs in educational publications, such as Marine Science Field Trips- MARE Teacher's Guide, websites and other venues.	B	A	A	A	C	B	BAA ACB	18=2

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Exhibits/ kiosks	Exhibits development and signage on CB and GF (Ex: residents and migratory species) at existing space at Point Reyes, CA Academy, Bodega Bay. Key coastal locations. Travelling exhibits. Demonstrate to the public the connections between watershed and ocean processes. Connect CBNMS to other local environments.	A	C	B	C	B	A	ACB CBA	18=2 1
Teacher at Sea	CBNMS Teacher at Sea would bring teachers out on research projects on the water either for yearly cruise or as Sanctuary vessel becomes operational (day operations). Could be linked with telepresence.	A	B	B	A	B	A	ABB ABA	19=1
ROV Building competition	Support local teachers to attend MATE ROV workshop, support locally at schools, and eventually have regional sanctuary ROV competition	C	A	B	B	B	B	CAB BBB	15=2
Sanctuary Lecture Series	Lectures that address ecosystem management and resources. Diversify- both audiences and location - specifically target Sonoma and West Marin and some topics specific to CBNMS (separate from GFNMS). Coordinate with other group's lecture series (PRNS, CA Academy, American Cetacean Society)	A	B	B	A	B	A	ABB ABA	21=1
Media Coverage	Establish lines of communication to media for: Research events (including ROV programs with student involvement, Radio/ TV shorts ("Zoo Monday", "Star Date"), student participation projects, student articles. Create Sanctuary Spot on radio.	A	C	A	B	C	A	ACA BCA	19=1
LIMPETS-network amongst 5 NMSs	HS student monitoring programs, currently sandy beach and intertidal (currently: lack staff to further support and host workshops on these topics). Would like to further participate with limpets by creating	A	C	B	B	A	B	ACB BAB	18=2

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
	offshore protocols, database to have students monitor offshore ecosystem (buoys, satellite info, submersible and ROV footage). Similar model for local schools.								
Outreach Fairs	Participate in community fairs/ events with display booth, activities, materials. (currently attend many events with GF, assess which ones are most appropriate, if naturalists/ volunteers were trained could attend many more than we currently do, develop display that features all 3 NMS in region). Evaluate and prioritize based on location, attendance and fee.	A	A	A	B	A	A	AAA BAA	23=1
CBNMS Sanctuary Association (assign to Community Outreach Working Group)	Develop Association to support the Sanctuary monetarily, news, media, public awareness, etc								
TMMC- Marine Science discovery program	Highlights different areas of marine science topics. CB research could fit into this program, use of ROV/ submersible footage and monitoring	C	A	A	A	C	B	CAA ACB	16=2
Adult Education Courses	Develop courses with existing continuing education groups (PRNSA field seminars, College of Marin, Santa Rosa Junior College). Feature science and natural resources of the CBNMS. Consider potential for online or teleconferencing courses.	A	B	A	B	C	A	ABA BCA	20=1
Visitor Space	Develop CBNMS visitors center/education office (exhibits and distributed information). Also develop off-site visitor spaces with local partners to increase CBNMS visibility and public awareness	A	C	C	C	B	C	ACC CBC	13=3

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Sustainable Fishing (and gear types) Workshop (assign to Maritime Heritage Working Group)	Provide public/consumers knowledge base for making sustainable fishing decisions. Reach broader audience. Tie into curriculum.								

Objective 2: Increase communication and coordination among Sanctuary programs and partners

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
CB Natural History Cruises	Few groups offer trips to CBNMS. Partner with boat owners (Rick Powers, Mick Menigoz) and market to general public or special interest groups	B	C	C	C	C	C	BCC CCC	10=3

Objective 3: Develop programs to target content builders, user/impact groups, influencers, and decision makers.

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Smart Boaters Program (Dock Walkers)	Expand visiting boater education, oil spill absorbent distribution program to SF and Bodega Bay	A	C	B	C	B	A	ACB CBA	18=2
CBNMS Poster	Similiar to marine mammal poster for GFNMS and MBNMS, Bathy poster - distribute at fairs, events and to teachers	B	A	A	C	C	B	BAA CCB	16=2
CBNMS Video	Documentary video on marine life of CBNMS (seabirds, submersible, marine mammals). For distribution to public schools, multi-purpose clips.	A	A	A	C	C	A	AAA CCA	20=1
Interactive CD ROM	Develop interactive CD ROM geared for educational use. Include video clips of Cordell Bank, its inhabitants, and interviews with researchers.	A	B	B	B	C	A	ABB BCA	19=1

Objective 4: Programs will target diverse audiences including multicultural, socio-economic, ages, and gender groups.

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Evaluation of Education Programs (all programs will incorporate evaluation)	Evaluate past, present and future education programs to assess whether programs efficiently meet educational goals and student and public needs.								
Audience needs assessment	Assess demographics of Marin, Sonoma, and Southern Mendocino counties and their needs in terms of marine education. Adopt and adapt programs like Merito (MBNMS) as appropriate.	A	C	B	C	A	A	ACB CAA	19=1



SITE SPECIFIC ISSUE:

ECOSYSTEM PROTECTION: IMPACTS FROM FISHING ACTIVITIES

Recommendation to the CBNMS Sanctuary Advisory Council
from the Fishing Activities Working Group

WORKING GROUP MEMBERS

Josh Churchman,
Commercial Fisherman, CBNMS SAC

Dan Howard,
Manager, CBNMS

Tom Lambert,
Fisheries Biologist, CBNMS SAC

Brian Mulvey,
NMFS, CBNMS SAC

Richard Powers,
Recreational Fishing Boat Operator, CBNMS
SAC

WORKING GROUP MEETINGS

MEETING 1:

- Overview of Joint Management Plan Review Process
- Decision Making Process

MEETING 2:

- Development of Problem Statement, Issue Characterization, Goals and Objectives

MEETING 3:

- Brian Mulvey, NMFS, Essential Fish Habitat
- Pietro Parravano, Report on Pew Commission's Findings
- Zeke Grader, The Role of PCFFA in Affecting fisheries Policy and Regulations
- Karen Garrison, NRDC: Addressing Fishing Issues from an NGO Perspective

MEETING 4:

REPORT FROM THE WATER: Fisherman's Experiences

- Chuck Wise, troller, Bodega Bay
- John Mellor, longliner, vertical longliner, San Francisco
- Steve Fitz, Scottish seiner, Half Moon Bay
- Barbara Emley, salmon and crab, San Francisco
- Mick Megnigoz, sport/rec, Novato
- Josh Churchman, experimental and fixed gear, Bolinas

REPORT FROM PFMC

- Cindy Thomson, SSC member, PFMC

MEETING 5:

ZONAL MANAGEMENT

- Brian Keller, Dry Tortugas Process, FKNMS
- Satie Airame, CINMS Marine Reserves Process
- Ralph Larson, SFSU, MLPA Master Team, The Process to Evaluate and Establish MPAs
- Astrid Scholz, Ecotrust, Spatial Tools for Marine Conservation and Fisheries Management

MEETING 6:

BIOLOGY OF FISHERIES MANAGEMENT

- Status of the herring fishery, Becky Otta, CDFG
- Status of the salmon fishery, Matt Erickson, CDFG
- Seabird and herring interactions, Kyra Mills, PRBO

OCEANOGRAPHIC PROCESSES

- Physical oceanography of CBNMS, Larry Breaker, MLML
- How science is integrated into fisheries management plans, Fred Wendell, CDFG
- MBNMS krill harvesting working group report, Huff McGonogal, MBNMS

MEETING 7:

- Discussion on potential of a krill fishery
- Laying out of options for the management plan

MEETING 8:

- Prioritization of options
- Final recommendation for SAC

ISSUE STATEMENT

Specific impacts on Sanctuary resources from fishing activities are complex and therefore difficult to document and manage. Some of the issues related to fishing or harvesting activities to be explored by the working group include: 1) impacts on benthic habitats from fishing gear such as bottom trawling and longlines, 2) potential impacts to higher trophic levels from over-harvesting of forage/ lower trophic level species (e.g. krill), 3) historic over-harvesting of targeted fish populations and the waste of bycatch, and 4) the lack of ecosystem-oriented and community-based fisheries management plans.

ISSUE DESCRIPTION

CBNMS is located in one of the world's four major upwelling systems. The upwelling of nutrient rich, deep ocean water provides a food-rich environment and promotes the growth of organisms at all levels of the marine food web. The vertical relief and hard substrate of the Bank provides habitat with nearshore characteristics in an open ocean environment 20 nm from shore. The tremendous biodiversity found in the vicinity of Cordell Bank includes more than 180 species of fish.

Commercial and sport fisheries in CBNMS generally target rockfish, flatfish, salmon, albacore tuna, and crab. Most of the private boats and charter vessels that fish CBNMS are from Bodega Bay. Rough ocean conditions often prevent smaller recreational boats from accessing Cordell Bank. Gear types used in CBNMS include: bottom trawl, mid-water trawl, hook and line, crab traps, and long lines including: troll long line, vertical long line, and fixed gear long line. Management of commercial and recreational fisheries in California is the responsibility of the California Department of Fish and Game (CDFG) and the Pacific Fishery Management Council (PFMC) (CBNMS is entirely in Federal waters), The NMSP does not manage fisheries but it does protect the entire sanctuary ecosystem and would work with fisheries management agencies to protect Sanctuary resources.

JURISDICTIONAL SETTING

RESTRICTED ACCESS FISHERIES

Restricted access programs in fisheries limit the quantity of persons, vessels or fishing gear that may be engaged in the take of a given species of fish or shell fish. Restricted Access may also limit the catch allocated to each fishery participant through harvest rights such as individual or community quotas. A primary purpose of restricted access programs is to balance the level of effort in a fishery with the health of the fishery resources. In most situations, except harvest rights, this involves setting an appropriate fishery capacity goal.¹

CALIFORNIA'S RESTRICTED ACCESS PROGRAM

In 1977, California focused its first limited access program on the abalone fishery, followed in 1979 with legislation requiring salmon limited entry permits. In the 1990s, industry began to demand more restricted access programs, so Department of Fish and Game (DFG) decided the time had come to address restricted access in a comprehensive manner. In 1996, a limited entry review committee was formed to develop a standard restricted access policy for the Fish and Game Commission. The Commission approved the restricted Access policy in June 1999.¹

Since the passage of the Marine life Protection Act of 1998 and the Commission's adoption of the restricted access policy in 1999, more restricted access program responsibility has shifted from the legislature to the Commission and Department. The Department works closely with constituent advisory committees and task forces to carefully design and evaluate restricted access plans for submission to the commission. The commission then conducts hearings for further public input. The plan is then returned to the department and advisory groups for any necessary revisions before going to the commission for a final decision. The legislature is involved and informed with fisheries that require legislation to implement restricted areas.¹

FEDERAL RESTRICTED ACCESS PROGRAM

The federal Fishery Conservation and Management Act of 1976 (Magnuson-Stevens Act) was enacted to begin phasing out foreign fishing and encouraged "Americanization" of fisheries, primarily for groundfish, within the 200 mile exclusive economic zone.

The Pacific Fishery Management Council is one of eight regional councils established by Congress, and manages the fisheries in federal waters off of California, Oregon and Washington. The Pacific Council manages four major West Coast fisheries: 1) coastal pelagic species fishery (e.g., sardines); 2) marine salmon fishery; 3) Pacific coast groundfish fishery (including more than 80 species); and 4) West Coast highly migratory species fishery (e.g., tunas and sharks).

MARINE LIFE MANAGEMENT ACT

The Marine Life Management Act (MLMA) requires the Department of Fish and Game and Fish and Game Commission to evaluate, every five years, existing restricted access programs. These evaluations and increase in restricted access programs will require DFG to expand capabilities to collect and analyze economic and social data related to fisheries. Socio-economic data and biological data about fisheries resources are key components in developing and evaluating restricted access policy alternatives.

MARINE LIFE PROTECTION ACT

State legislation requires that the Department of Fish and Game develop a plan for establishing networks of marine protected areas in California waters to protect habitats and preserve ecosystem integrity. The master plan requires that recommendations be made for a preferred alternative network of MPAs with "an improved marine life reserve component." The MLPA further states that "it is necessary to modify the existing collection of MPAs to ensure that they are designed and managed according to clear, conservation-based guidelines that take full advantage of the multiple benefits that can be derived from the establishment of marine life reserves."

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

The implementation of the Magnuson-Stevens Fishery Conservation and Management Act virtually eliminated all foreign fishing vessels by extending the United States jurisdiction and control over all marine fisheries resources within 200 miles of the U.S. coast. The Act required the establishment of eight regional fishery management councils composed of federal and state fishery management officials and industry representatives. The councils have oversight on developing, monitoring and revising fishery management plans for each fishery within the EEZ that requires management. Every fishery management plan is approved by the Secretary of Commerce by way of the National Marine Fisheries Service.

FISHING ACTIVITIES GOAL

To better understand and allow for fishing activities that are compatible with Sanctuary goals and ecosystem health.

FISHING ACTIVITIES OBJECTIVES

1. Establish a working relationship with Pacific Fisheries Management Council.
2. Track and evaluate existing, new, and emerging fishing issues for their potential impacts on Sanctuary resources.
3. Support adaptive management plans that promote ecosystem health.
4. Develop a definition of “compatible use” for fishing activities that complement the Sanctuary’s primary objective of resource protection.
5. Broaden and formalize partnerships between Sanctuary, fishing community, and NGOs.

FISHING ACTIVITIES RECOMMENDATIONS

■ OBJECTIVE 1: Establish a working relationship with state and federal fisheries management agencies.

STRATEGY FA-1: *Establish consistent and coordinated region-wide Sanctuary representation at the Pacific Fisheries Management Council and Fish and Game Commission meetings.*

(also see STRATEGY FA-6)

Action 1.1 Select regional sanctuary representative to attend Pacific Fisheries Management Council (PFMC) and Fish and Game Commission (FGC) meetings and participate as appropriate.

The West Coast sanctuaries (Olympic Coast, Cordell Bank, Gulf of the Farallones, Monterey Bay and Channel Islands) need a single point of contact that will consistently represent all five sanctuaries to inform and update the Council and Commission on current activities and emerging fishing issues. The sanctuaries also need to listen and track issues PFMC and FGC are addressing.

- A. Create quarterly, or as appropriate, briefing packet for the Council and Commission on Sanctuary activities.

Priority Level: 1

Implementation Time Line: Immediately

Partners: NMSP, OCNMS, GFNMS, MBNMS, CINMS

■ **OBJECTIVE 2: Track and evaluate existing, new, and emerging fishing issues for their potential impacts on Sanctuary resources.**

STRATEGY FA-2: *Establish process to track fishing activities in the Sanctuary.*

Action 2.1 Through the emerging issues tracking and evaluation process (cross-cutting administration), continually identify trends in current, new, and emerging fisheries.

- A. Work with the fishing community, mariners, the research community, and other resource management agencies to identify new and emerging activities.

Priority Level: 2

Implementation Time Frame: Immediately

Partners: GFNMS, OCNMS, MBNMS, CINMS, NMFS, PFMC, CDFG, NGOs and maritime industry

STRATEGY FA-3: *Evaluate impacts to Sanctuary resources from fishing activities.*

(also see Strategy FA-7, FA-9 and FA-10)

Action 3.1 Work with the standing fishing working group of the Sanctuary Advisory Council (see STRATEGY FA-4) to develop a definition for “compatible use”. The “compatible use” definition will establish a threshold for maximum allowable impacts on Sanctuary resources from fishing activities. The “compatible use” definition will set a standard for the “compatibility index” (see Action 3.2 below). As fishing activities have been evaluated based on the compatibility index, and it is determined that the compatible use threshold (as established by the definition) has been exceeded, the fishing working group will develop recommendations on how to address these impacts.

- A. The CBNMS standing fishing working group will examine (see STRATEGY FA-4) other resource management agency models for “compatible use” including the National Wildlife Refuge System’s policies and procedures for compatibility determination. United States Fish and Wildlife Service authorizing legislation defines the following: “The term ‘compatible use’ means a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgement of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge.” The National Wildlife Refuge System Improvement Act of 1997 also establishes “Compatibility Standards and Procedures”.
- B. The CBNMS standing fishing working group will conduct a literature search on other marine protected area definitions for “sustainable fisheries”, “compatible use” or appropriate terms and definitions to help support the development of a “compatible use” definition. Sources of information may include: IUCN, Great Barrier Reef Marine Park Authority and the Jakarta Mandate.
- C. The CBNMS standing fishing working group will work with the National Marine Sanctuary Program on developing a “compatible use” definition for CBNMS to use as a threshold for the compatibility index .

Priority Level: 2

Implementation Time Line: Complete by end of year one.

Partners: NMSP, MBNMS, GFNMS, working group

Action 3.2 Develop a “compatibility index” to rank and evaluate types and levels of impacts from fishing activities.

- A. Develop the compatibility index based on a model similar to the Severity Ranking of Collateral Impacts² model for fishing gear types and includes consideration and rankings for different types and levels of impacts including:
1. habitat impacts - physical
 2. habitat impacts - biological
 3. levels of by-catch - shellfish and crabs, finfish, sharks, marine mammals, seabirds and sea turtles, juvenile life stages
 4. impacts associated with species life history such as aggregated behavior during spawning

STRATEGY FA-4: *Develop policy recommendation or management action(s) to address impacts from fishing activities on Sanctuary resources.*

Action 4.1 If compatibility index indicates significant negative impacts on Sanctuary resources (see Action 3.1 “compatible use threshold”) from fishing activities, develop a stakeholder-based, issue specific, working group to evaluate and make a recommendation on actions to be taken.

- A. Stakeholder-based working group will include: resource management agencies; interest groups; user groups; fisherman representing different gear types; scientific community.

1. Decision making process will be based on best available scientific and socioeconomic data

Priority Level: 2

Implementation Time Line: As appropriate

Partners: SAC, stakeholder representatives, agency representatives, interest groups

Action 4. 2 Develop a series of management categories (policy response) based on relative level of impact as determined by the computability index. Management responses or recommendations to the appropriate fisheries management agencies may include a range of recommendations such as:

1. substituting less ecologically damaging gears for more damaging gear types;
2. changing fishing practices using appropriate incentives;
3. promoting innovations in fishing gear and technology;
4. establishing area-based restrictions;
5. supporting future studies, including assessment of social and economic effects of policy actions on fishing activities; 1 and
6. using tools such as adaptive management to reintroduce closed fisheries.

Priority Level: 2

Implementation Time Line: Complete development of compatibility index by end of year 2

Partners: Fishing Community, PFMC, CDFG

Products: Compatibility Index

STRATEGY FA-5: *Work with Gulf of the Farallones and Monterey Bay National Marine Sanctuaries on developing a recommendation to address impacts on marine ecosystems in and around Sanctuary waters from krill harvesting.*

Action 5.1 Krill are currently not harvested within the Sanctuary; however, the potential exists for this fishery to develop in the future due to an increasing need for aquaculture feed. A krill fishery could not only severely impact the integrity of the marine ecosystem, but could adversely affect commercial and recreational fisheries of all kinds as most targeted species are directly or indirectly dependent on the resource. To address this issue, the fishing activities working group is recommending a total, permanent ban on krill harvesting in the exclusive economic zone (EEZ) of the West Coast off of Washington, Oregon and California.

- A. The Sanctuary will work with GFNMS and MBNMS to identify and pursue strategies that result in a permanent ban on krill harvesting.
- B. The Sanctuary will support the work of MBNMS on an ecological report that includes an overview of the importance of krill to the marine ecosystem within the sanctuaries, and an assessment of the potential ecological and economic impacts of a krill fishery.
- C. For the federal component, the initial phase will focus on communicating with the Pacific Fisheries Management Council and identifying issues and concerns that the sanctuaries and agencies have.
- D. The next phase will focus on approaching the National Marine Fisheries Service, Pacific Fisheries Management Council and the State Legislature with the ecological report and the objective of having these entities enact a permanent ban on krill harvesting.

Priority Level: 1

Implementation Time Line: Immediately begin working with MBNMS and PFMC

Partners: GFNMS, MBNMS, PFMC, NMFS, CDFG, FGC

■ **OBJECTIVE 3: Support adaptive management plans that promote ecosystem health.**

STRATEGY FA-6: *Establish consistent and coordinated region-wide Sanctuary representation at the Pacific Fisheries Management Council and Fish and Game Commission meetings to track and comment on the review of existing fishery management plans and the development of new plans.*

(also see STRATEGY FA-1)

Action 6.1 Select regional sanctuary representative to attend PFMC and FGC meetings to participate as appropriate and provide input and support for the adoption of adaptive management plans.

- A. The West Coast sanctuaries (Olympic Coast, Cordell Bank, Gulf of the Farallones, Monterey Bay and Channel Islands) need a single point of contact that will consistently represent all five sanctuaries to inform and update the Council and Commission on current activities and emerging fishing issues.
- B. Create quarterly, or as appropriate, briefing packet for the Council and Commission on Sanctuary activities.

Priority Level: 1

Implementation Time Line: Immediately

Partners: NMSP, OCNMS, GFNMS, MBNMS, CINMS

STRATEGY FA-7: Evaluate impacts to Sanctuary resources from fishing activities and make incremental, adaptive management recommendations to minimize socio-economic impacts and increase protection of the Sanctuary's resources.

(also see STRATEGY FA-3, FA-9 and FA-10)

STRATEGY FA-8: Collect accurate data on fishing activities and levels of impacts specific to CBNMS.

Action 8.1 Work with National Marine Fisheries Service on increasing the number of observers on fishing vessels in CBNMS. Observers to collect data on: catch; by-catch levels; and evaluate experimental gear types.

Priority Level: 2

Partners: Fishing Community, NMFS

Products: Accurate data sets on impacts from fishing activities

Action 8.2 Hire contractor to profile historic and evolution of fishing activities occurring in the Sanctuary. Profile should include information on actual numbers of boats actively engaged in each fishery; areas where the fishery is taking place; gear types; catch levels; a socioeconomic profile of the harbors and marinas accessing the Sanctuary; and an understanding of markets, changing gear types, and changing fisheries management regulations that influence this profile. Information exchange with mariners will provide important input to the profile.

Priority Level: 1

Partners: Fishing Community, NMFS, NOAA, NCCOS, CSC

Products: Publication

■ **OBJECTIVE 4: Develop “compatible use” standards for fishing activities that complement the Sanctuary’s primary objective of resource protection.**

STRATEGY FA-9: Develop a definition for “compatible use” for fishing activities that complement the Sanctuary’s primary objective of resource protection.

(also see Strategy FA-3, FA-7 and FA-10)

STRATEGY FA-10: Evaluate impacts to Sanctuary resources from fishing activities.

(also see Strategy FA-3, FA-7 and FA-9)

References:

1. California Department of Fish and Game. December 2001, California’s Living Marine Resources: A Status Report, Sacramento, California;
2. Morgan, Lance E. and Chuenpagdee, Ratana. 2003, Shifting Gears: Addressing the Collateral Impacts of Fishing Methods in U.S. Waters, Pew Science Series

Inventory Matrix: CBNMS Ecosystem Protection: Impacts from Fishing Activities

Problem Statement: Specific impacts on Sanctuary resources from fishing activities are complex and therefore difficult to document and manage. Fishing activities in the Sanctuary needing additional information include: 1) impacts on benthic habitats from fishing gear, such as bottom trawling and longlines, 2) potential impacts to higher trophic levels from over-harvesting forage/ lower trophic level species (e.g. krill), 3) historic catch and effort activity, and 4) the levels of and impacts from bycatch. Additionally, ecosystem oriented fisheries management plans have not been developed.

Goal 1. To better understand and allow for fishing activities that are compatible with Sanctuary goals and ecosystem health.

Objective 1: Establish a working relationship with State and Federal fisheries management agencies.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Select regional Sanctuary representative to attend PFMC and FGC meetings and participate as appropriate	A single point of contact will consistently represent CBNMS and speak with one voice for all W. Coast sanctuaries to inform and update on current activities and emerging fisheries issues	Lead: NMSP Partners: CBNMS, GFNMS, MBNMS, CINMS, OCNMS		Create quarterly, or as appropriate, briefing packet for Council review on Sanctuary activities, concerns and recommendations.

Objective 2: Track and evaluate existing, new, and emerging fishing issues for their potential impacts on Sanctuary resources.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Track Fishing Activities in the Sanctuary	Through the emerging issues tracking and evaluation process (cross-cutting administration), continually identify and evaluate trends in new and emerging fisheries. Process should include information exchange with mariners.	Lead: CBNMS Partners: MBNMS, GFNMS, CINMS, OCNMS, CDFG, NMFS, PFMC, NGOs, and maritime industry		
Develop compatibility index	Develop a “compatibility index” or threshold for sustainability and evaluate fishing activities in CBNMS in relationship to this standard. Index may consider factors such as: impacts on habitats, levels of bycatch, and timing of spawning events. Recommendations may be consistent with compatible management planning and may be used to help re-introduce closed fisheries.	Lead: CBNMS Partners: fishing community, PFMC, CDFG		

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Develop Stakeholder-based Working Group	If a potential negative impact on Sanctuary resources or habitats from fishing activities is suspected, develop a stakeholder- based working group to evaluate and make a recommendation .	Lead: CBNMS Partners: SAC, Stakeholder representatives, agency representatives and interest group representatives		

Objective 3: Support adaptive management plans that promote ecosystem health.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Select regional Sanctuary representative to attend State and Federal fisheries management agency meetings.	A single point of contact will consistently represent CBNMS and speak with one voice for all W. Coast sanctuaries to inform and update on current activities and emerging fisheries issues	Lead: NMSP Partners: CBNMS, GFNMS, MBNMS, CINMS, OCNMS		Create quarterly, or as appropriate, briefing packet for Councils review on Sanctuary activities
Identify fishing gear compatible with protection of Sanctuary habitats	Develop framework with NMFS and CDFG to permit trials on experimental fishing gear to be tested in CBNMS that lessens impacts to Sanctuary habitats.	Lead: CBNMS, NMFS (EFH), CDFG Partners: fishing community		
Develop compatibility index	Develop a "compatibility index" or threshold for sustainability and evaluate fishing activities in CBNMS in relationship to this standard. Index may consider factors such as: impacts on habitats, levels of bycatch, and timing of spawning events. Recommendations may be consistent with compatible management planning and may be used to help re-introduce closed fisheries.	Lead: CBNMS Partners: fishing community, PFMC, CDFG		
Promote the Use of Observers in CBNMS	Collect accurate data on catch, sustainable (low impact) gear and by-catch levels. Observers should also evaluate experimental fisheries to determine levels of impacts on living marine resources and habitats	Lead: PFMC, CDFG Partners: CBNMS, MBNMS, GFNMS, CINMS,		

Objective 4: Develop “compatible use” standards for fishing activities that complement the Sanctuary’s primary objective of resource protection.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Develop definition for compatible use (working group task)	Literature search on other MPA definitions for sustainable fishery or compatible use. Coordinate with NMSP on developing a definition to be used by all sanctuaries.	Lead: NMSP Partners: CBNMS stakeholder-based working group, other NMSs	Jakarta Mandate, IUCN, GRMPA, MCB/ Pew “Shifting Gears” publication, USFWS	Compatibility index
Develop compatibility index	Develop a “compatibility index” or threshold for sustainability and evaluate fishing activities in CBNMS in relationship to this standard. Index may consider factors such as: impacts on habitats, levels of bycatch, and timing of spawning events. Recommendations may be consistent with compatible management planning and be used in ways such as to help re-introduce closed fisheries.	Lead: CBNMS Partners: fishing community, PFMC, CDFG		

Objective 5: Broaden and formalize partnerships between Sanctuary, fishing community, and NGOs.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Develop standing fishing working group of the Sanctuary Advisory Council	Create a permanent body to evaluate and advise the SAC on fishing issues and make determination when an “issue specific” working group should be formed to take an indepth look and recommendation on action.	Lead: CBNMS Partners: Stakeholder representatives, agency representatives and interest group representatives		

Ranking Matrix: CBNMS Ecosystem Protection: Impacts from Fishing Activities

Objective 1: Establish a working relationship with State and Federal fisheries management agencies.

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Select regional Sanctuary representative to attend PFMC and FGC meetings and participate as appropriate	A single point of contact will consistently represent CBNMS and speak with one voice for all W. Coast sanctuaries to inform and update on current activities and emerging fisheries issues	A	A	A	A	A	A	AAA AAA 24	1

Objective 2: Track and evaluate existing, new, and emerging fishing issues for their potential impacts on Sanctuary resources.

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Develop Stakeholder-based Working Group	If a potential negative impact on Sanctuary resources or habitats from fishing activities is suspected, develop a stakeholder- based working group to evaluate and make a recommendation .	A	B	B	A	B	A	ABB ABA 21	2
Track Fishing Activities in the Sanctuary	Through the emerging issues tracking and evaluation process (cross-cutting administration), continually identify and evaluate trends in new and emerging fisheries. Process should include information exchange with mariners.	A	B	A	B	B	A	ABA BBA 21	2
Develop compatibility index	Develop a “compatibility index” or threshold for sustainability and evaluate fishing activities in CBNMS in relationship to this standard. Index may consider factors such as: impacts on habitats, levels of bycatch, and timing of spawning events. Recommendations may be consistent with compatible management planning and may be used to help re-introduce closed fisheries.	A	B	B	A	A	A	ABB AAA 22	2

Objective 3: Support adaptive management plans that promote ecosystem health.

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Establish regional Sanctuary representative to attend State and Federal fisheries management agency meetings.	A single point of contact will consistently represent CBNMS and speak with one voice for all W. Coast sanctuaries to inform and update on current activities and emerging fisheries issues	A	A	A	A	A	A	AAA AAA 24	1
Identify fishing gear compatible with protection of Sanctuary habitats	Develop framework with NMFS and CDFG to permit trials on experimental fishing gear to be tested in CBNMS that lessens impacts to Sanctuary habitats. <i>THE STATUS OF THIS COULD CHANGE DEPENDING ON SHIFTS IN FISHERIES MANAGEMENT (more fisheries opening up on CBNMS)</i>	A	C	C	B	A	A	ACC BAA 19	3
Develop compatibility index	Develop a “compatibility index” or threshold for sustainability and evaluate fishing activities in CBNMS in relationship to this standard. Index may consider factors such as: impacts on habitats, levels of bycatch, and timing of spawning events. Recommendations may be consistent with compatible management planning and may be used to help re-introduce closed fisheries.	A	B	B	B	B	A	ABB BBA 20	3/2
Promote the Use of Observers in CBNMS	Collect accurate data on catch, sustainable (low impact) gear and by-catch levels. Observers should also evaluate experimental fisheries to determine levels of impacts on living marine resources and habitats	A	B	A	A	B	A	ABA ABA 22	2

Objective 4: Develop “compatible use” standards for fishing activities that complement the Sanctuary’s primary objective of resource protection.

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Develop definition for compatible use (working group task)	Literature search on other MPA definitions for sustainable fishery or compatible use. Coordinate with NMSP on developing a definition to be used by all sanctuaries.	A	B	B	A	B	A	ABB ABA 21	2
Develop compatibility index	Develop a “compatibility index” or threshold for sustainability and evaluate fishing activities in CBNMS in relationship to this standard. Index may consider factors such as: impacts on habitats, levels of bycatch, and timing of spawning events. Recommendations may be consistent with compatible management planning and be used in ways such as to help re-introduce closed fisheries.	A	B	A	A	B	A	ABA ABA 22	2

Objective 5: Broaden and formalize partnerships between Sanctuary, fishing community, and NGOs.

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Develop standing fishing working group of the Sanctuary Advisory Council	Create a permanent body to evaluate and advise the SAC on fishing issues and make determination when an “issue specific” working group should be formed to take an indepth look and recommendation on action.	A	B	B	B	B	A	ABB BBA 20	3/2



SITE-SPECIFIC ISSUE:
**PARTNERSHIPS
WITH COMMUNITY GROUPS**

Recommendation to the CBNMS Advisory Council from the Partnerships
with Community Groups Working Group

WORKING GROUP MEMBERS

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Bob Wilson,
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WORKING GROUP MEETINGS

MEETING 1:

- Overview of Joint Management Plan Review Process
- Decision Making Process

MEETING 2:

- Development of Problem Statement, Issue Characterization, Goals and Objectives

MEETING 3:

- Panel presentations by cooperating associations, including:
 - Farallones Marine Sanctuary Association
 - Point Reyes National Seashore Association
 - Bay Model Association
 - California State Parks Cooperating Associations Program
 - Polar Bears International

MEETING 4:

- Review of pertinent information gathered from association panel
- Inventory viable options for CBNMS to develop partnerships

MEETING 5:

- Prioritization and ranking of management options
- Outlining details of priority management options

ISSUE STATEMENT

In order to fully carry out its mission, Cordell Bank NMS needs to develop community partnerships to maximize its limited resources and to minimize the risk of working in isolation and missing opportunities. Through community partnerships, opportunities will be leveraged to develop public awareness, education, and stewardship; obtain volunteer, financial, and in-kind support; and increase research opportunities.

ISSUE DESCRIPTION

CBNMS is a small offshore sanctuary that does not have the necessary resources to complete key research projects or establish the same unique identity and level of interest and support enjoyed by other established near-shore sanctuaries. The Sanctuary's primary program focuses on conducting research to identify and protect the Sanctuary's natural resources and habitats. CBNMS faces a significant challenge in effectively building community identity, interest, and support.

One major opportunity to achieve these goals is through community partnerships. Sanctuaries cannot function without their support. All sanctuaries work with Sanctuary Advisory Councils, community groups, and agencies to provide support in reaching out to the community and building stewardship. Without partnerships CBNMS risks:

- Working in isolation;
- duplicating efforts of other agencies and community groups;
- and missing opportunities to leverage research partnerships and expertise; develop public awareness and education; build public support; and leverage financial and in-kind support.

A model used by the neighboring Gulf of the Farallones National Marine Sanctuary is a friends group called the Farallones Marine Sanctuary Association (FMSA). The Farallones Marine Sanctuary Association works in coordination with the GFNMS to: enlist volunteers to monitor and protect fragile marine habitats; develop educational programs; offer Sanctuary field adventures and tours; publish newsletters; and create visitor centers, educational materials, and exhibits to enhance the public's appreciation and enjoyment of the Sanctuary. As the needs and characteristics of the CBNMS differ from those of other sanctuaries like GFNMS, proceeding with a friends model or other partnership opportunities will require analysis of how the partnership could effectively provide support to the Sanctuary.

PARTNERSHIPS WITH COMMUNITY GROUPS GOALS

1. Maximize partnerships to facilitate the Sanctuary's ability to identify, understand, and protect Sanctuary resources.
2. Instill, within the community, a sense of value and stewardship of the Sanctuary.

PARTNERSHIPS WITH COMMUNITY GROUPS OBJECTIVES

Create partnerships to:

1. Further research and monitoring to assist in answering resource management questions
2. Establish a strong identity for the Sanctuary within various interests in the community
3. Identify and cultivate potential sources of revenue and in-kind support
4. Build stewardship to support and advocate for the needs of the Sanctuary

RECOMMENDATIONS

■ OBJECTIVE 1: Create partnerships to further research and monitoring to assist in answering resource management questions.

STRATEGY PC-1: *Develop partnerships with the research community to leverage opportunities and expertise and fulfill the Sanctuary's research goals.*

ACTION 1.1 Collaborate with other research entities such as agencies and institutions to share in-kind resources and services.

- A. Identify potential research partners including other resource management agencies, marine research institutions, and individual researchers.
- B. Identify ways to collaborate with potential partners. The Sanctuary should determine what it could offer to the partnership, including but not limited to providing ship time, housing, and/or outreach opportunities. Example collaborations include partnering on grants, internship programs, and symposiums.
- C. Identify and secure outside funding to support field researchers and an internship program.
- D. Develop outreach component to research programs (may also satisfy grant requirements).

Priority Level: 2

Potential Partners: PRNS, BML, PRBO, SFSU Romberg-Tiburon, SF State, NMFS, National Fish Wildlife Federation, CDFG, other research organizations

Implementation Timeline: year 1- Identify and contact partners, come to agreement on goals and nature of partnership; year 2- formalize and begin work as partners; year 3- maintain current and establish additional partnerships

Products: Reports, papers, symposiums

Other Objectives Addressed: 2, 3, and 4

STRATEGY PC-2: *Work with other resource management agencies to identify and address common resource management issues/needs.*

ACTION 2.1 Based on common resource management issues; identify opportunities to collaborate in answering and addressing management needs.

- A. Identify and list agencies with common management concerns

- B. Contact potential partners and establish mutual interest in partnering on research for projects that address management needs.
- C. As common needs are identified, develop plan to share and/or pool resources to jointly conduct research projects aimed at answering management questions.

Priority Level: 1

Potential Partners: PRNS, NMFS (EFH), USGS, other research organizations and resource management agencies

Implementation Timeline: year 1- Identify and contact agencies, establish mutual interest in collaboration; year 2 and on- as needs arise, implement partnerships and work collaboratively to answer resource management questions

Products: Joint reports and papers

Other Objectives Addressed: 2, 3

■ **OBJECTIVE 2: Create partnerships to establish a strong identity for the Sanctuary within various interests in the community**

STRATEGY PC-4: *Develop outreach messages targeted to communities with potential to partner with and/or support CBNMS.*

ACTION 4.1 Develop key messages regarding the uniqueness of CBNMS for use when approaching potential partners.

- A. Review current active outreach and media messages from Joint Management Plan Review and Sanctuary Quest.
- B. Staff will formulate and finalize key messages about CBNMS for formal and informal outreach to potential partners. As part of this process, staff should tailor messages for specific uses and audiences.
- C. Review messages with Sanctuary Advisory Council.
- D. Integrate messages into communications plan and implement. The development of these messages must precede implementation of most of the actions within the Partnerships with Community Groups Action Plan, as they are critically important to the success of creating partnerships.

Priority Level: 1

Potential Partners: Sanctuary Advisory Council

Implementation Timeline: Immediately

Products: Key messages for media and targeted uses and audiences

Other Objectives Addressed: 3 and 4

STRATEGY PC-5: *Culture the SAC as a link to the community.*

ACTION 5.1 Raise the profile of CBNMS by identifying the role of Sanctuary Advisory Council (SAC) members to increase awareness of CBNMS and encouraging them to reach out to their constituencies and communities at large.

- A. Poll other Sanctuary Advisory Councils and SAC coordinators in the National Marine Sanctuary Program on previous successes and failures in reaching out to their community and constituencies.

- B. Provide media training to SAC members. Provide materials such as general PowerPoint or slide presentations for SAC members to use.
- C. As an agenda item at an Advisory Council meeting, discuss with members ways to engage constituents. Questions to guide discussion include: 1) How do you currently interact with constituents? 2) What are ways you could engage constituents in the future? 3) Who do you think of as your constituency?
- D. Clarify and evaluate the SAC chairperson's roles, responsibilities, and expectations for representing the Advisory Council

Priority Level: 1

Potential Partners: CBNMS Sanctuary Advisory Council, other NMSP Advisory Councils and Coordinators, NMSP Headquarters staff

Implementation Timeline: year 1- complete poll of other Advisory Councils and coordinators, provide media training, complete discussion at Advisory Council meeting, evaluate role of SAC chair; year 2 and on-going- continue to evaluate and improve Advisory Council's role as link to the community.

Products: General PowerPoint and/or slide presentation, Media and communications training for SAC, SAC Annual Report, SAC list serve, Advisory Council Working Groups, ask Advisory council members what other products would be useful for their use

Other Objectives Addressed: 4

STRATEGY PC-6: *Use outreach as a tool to promote the Sanctuary's research programs and raise the identity of the Sanctuary in Marin, Sonoma, and Southern Mendocino counties.*

ACTION 6.1 Raise the identity of the Sanctuary in the community through outreach efforts using the research conducted at CBNMS.

- A. Identify key results from research efforts and create talking points to present to the public
- B. Place exhibits about current research efforts at Cordell Bank NMS in appropriate venues such as Bodega Marine Labs, etc
- C. CBNMS researchers will continue to present their findings to research and other communities. May increase frequency and/or expand audience of presentations. Incorporate talking points into presentations.
- D. Host open house on Sanctuary research vessel allowing community to meet with researchers and learn about the Sanctuary and its research programs.
- E. Continuously integrate new research findings and research talking points into education and outreach programs.

Priority Level: 1

Potential Partners: CB Sanctuary Advisory Council, local Chambers of Commerce, Bodega Marine Lab, California Academy of Sciences, NMSP Media staff, GFNMS, FMSA, PRNS, NOAA Fisheries, CDFG

Implementation Timeline: year 1- create research talking points, incorporate talking points into outreach programs, increase presentations on current research, plan open house on Sanctuary vessel; year 2- continue outreach on research, hold Sanctuary vessel open house, plan exhibits on research; year 3- build and open exhibits on research, continue outreach on research

Products: Outreach efforts may include: exhibitry and signage, lecture series. Document and publish research findings for partner and community use.

Other Objectives Addressed: 1 and 4

ACTION 6.2 Use media opportunities to raise the identity of the Sanctuary within the surrounding communities. Use key findings of Sanctuary research as a point of interest.

- A. Identify and implement effective use of media tools to reach broad audiences (for example, newspaper, TV, radio). (*See also Education Action Plan*) Incorporate key research findings into outreach messages.
- B. Inform the media on a regular basis about the current activities in the Sanctuary.
- C. Create media opportunities by inviting reporters on board research cruises
- D. Nurture relationship with key press individuals and organizations. Work with regular columnists to create marine-focused columns and features in the local paper(s). Work with local radio to incorporate feature stories about the Sanctuary into their programming.

Priority Level: 1

Potential Partners: local newspapers and writers, local radio stations, national media groups

Implementation Timeline: year 1- identify effective use of media tools, identify and contact media partners, begin collaboration; year 2- begin trainings of media representatives, fully establish and implement partnerships; year 3- evaluate success of partnerships, continue and/or modify effective partnerships as necessary, year 4 and on-going- As needed, identify and develop additional partnerships with media

Products: periodical articles in newspapers, weekly/monthly radio show, videos

Other Objectives Addressed: 3 and 4

STRATEGY PC-7: *Develop partnerships with the research community to leverage opportunities and expertise and fulfill the Sanctuary's research goals.*

(*See Strategy PC-1*)

ACTION 7.1 Collaborate with other research entities such as agencies and institutions to share in-kind resources and services.

STRATEGY PC-8: *Work with other resource management agencies to identify and address common resource management issues/needs.*

(*See Strategy PC-2*)

ACTION 8.1 Based on common resource management issues; identify opportunities to collaborate in answering and addressing management needs.

■ **OBJECTIVE 3: Create partnerships to identify and cultivate potential sources of revenue and in-kind support.**

STRATEGY PC-9: *Identify mechanisms to raise and manage additional sources of revenue.*

ACTION 9.1 CBNMS does not have the financial resources to fulfill its mandate of resource protection. Developing partnerships will allow the Sanctuary to leverage additional financial and in-kind support. As

the need arises, CBNMS will develop partnerships to manage and generate additional sources of revenue.

- A. Establish fiscal agent relationship with existing non-profits to manage grants and donations
- B. Explore vehicles such as individual donations, grants, and events to generate additional sources of revenue.
- C. Build community capacity and interest to help generate donations
- D. Support community effort to create non-profit if appropriate.

Priority Level: 2

Potential Partners: FMSA, PRNSA, NMSF, SAC

Implementation Timeframe: As necessary for A and D; year 1- begin exploring options to generate additional sources of revenue and building community capacity to generate donations; year 2 and on-going- continue exploring partnerships to identify and secure outside funding

Products: Fiscal agent, merchandise sales, membership, field seminars, grants, and fund raising events.

Other Objectives Addressed: 4

STRATEGY PC-10: *Develop partnerships with the research community to leverage opportunities and expertise and fulfill the Sanctuary's research goals.*

(See Strategy PC-1)

ACTION 10.1 Collaborate with other research entities such as agencies and institutions to share in-kind resources and services.

STRATEGY PC-11: *Work with other resource management agencies to identify and address common resource management issues/needs.*

(See Strategy PC-2)

ACTION 11.1 Based on common resource management issues, identify opportunities to collaborate in answering and addressing management needs.

STRATEGY PC-12: *Develop outreach messages targeted to communities with potential to partner and/or support CBNMS.*

(See Strategy PC-3)

ACTION 12.1 Develop key messages regarding uniqueness of CBNMS for use when approaching potential partners.

■ OBJECTIVE 4: Build stewardship to support and advocate for the needs of the Sanctuary through creating partnerships.

STRATEGY PC-13: *Culture the SAC as a link to the community.*

(See Strategy PC-4)

ACTION 13.1 Raise the profile of the Sanctuary Advisory Council (SAC) members and encourage them to reach out to their constituency and community at large to help raise the profile of CBNMS in Marin, Sonoma, and Mendocino counties.

Inventory Matrix: Cordell Bank NMS Partnerships with Community Groups

Problem Statement: In order to fully carry out its mission, CBNMS needs to develop community partnerships to maximize its limited resources and to minimize the risk of working in isolation and missing opportunities. Through community partnerships, opportunities will be leveraged to develop public awareness, education, and stewardship; obtain volunteer, financial, and in-kind support; and increase research opportunities.

Goal 1: Maximize partnerships to facilitate the Sanctuary's ability to identify, understand, and protect Sanctuary resources

2: Instill, within the community, a sense of value and stewardship of the Sanctuary

Objective 1: Create partnerships to further research and monitoring to assist in answering resource management questions.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Develop Partnerships with Research Community	Identify and collaborate with other research entities such as agencies and institutions to secure outside funding, field researchers and internship programs. Facilitate and advise on outreach on CBNMS research to satisfy grant requirements.	Lead: CBNMS Partners: PRNS, BML, PRBO, SFSU Romberg-Tiburon, SF State, NMFS, National Fish Wildlife Federation, CDFG, other research organizations		Reports, papers, symposiums
Work with other agencies to identify common resource management issues/needs.	Based on common resource management issues, identify collaborative research needs to assist in answering and addressing management needs.	Lead: CBNMS Partners: PRNS, NMFS (EFH), USGS, other research organizations and resource management agencies	Research Working Group, partners	Reports, papers

Objective 2: Create partnerships to establish a strong identity for the Sanctuary within various interests in the community.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Crystallize key messages regarding uniqueness of CBNMS for approaching potential partners	Identify potential segment communities and formalize targeted messages. Integrate into communications plan.	Lead: CBNMS Partners: SAC	Communications plan, staff, SAC	Targeted messages, list of communities for partnerships
Develop Partnerships with Research Community	Identify and collaborate with other research entities such as agencies and institutions.	Lead: CBNMS Partners: PRNS, BML, PRBO, Romberg-Tiburon, SF State, NMFS		E mail newsletter
Culture the SAC as a Link to the Community	Identify the SAC's role in reaching out to their constituency and community at large to help raise the profile of CBNMS in Marin, Sonoma, and Mendocino counties.	Lead: CBNMS Partners: CBNMS SAC	MBNMS, FKNMS, CINMS, OCNMS	Media and communications training for SAC, SAC Annual Report, Listserve, Advisory Working Groups
Use Research and Outreach as Tools to Raise the Identity of the Sanctuary in the Marin, Sonoma, and Southern Mendocino counties	Through outreach efforts, bring the research conducted at CBNMS to the community. Use news media as one outreach tool.	Lead: CBNMS Partners: local research community, media, SAC, Chambers of Commerce	CBNMS Research program, other research conducted at CBNMS	Outreach efforts may include: exhibitry and signage, lecture series, periodical articles in newspapers, weekly/monthly radio show. Document and publish research findings for partner and community use.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Use Education as a Tool to Raise the Identity of the Sanctuary in the Marin, Sonoma, Southern Mendocino Counties	Although CBNMS has a significant amount of information, partners are needed to develop curricula and other educational materials. Partner with teachers and other content builders in Marin, Sonoma, and Mendocino counties to develop an understanding and appreciation of CBNMS. Projects include: working with teachers on integrating CBNMS information into curriculum, teacher training workshops, student monitoring, and student mentoring.	Lead: CBNMS Partners: local schools, research community, Chambers of Commerce, CCC, MARE, FMSA, Steinhart, CAS, Oakland Museum, and other educational institutions.	FMSA, CBNMS, PRNS, MARE, NMSP	Educational materials (see CB Education WG)

Objective 3: Create partnerships to identify and cultivate potential sources of revenue and in-kind support

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	PRODUCTS
Identify potential research partnerships.	Collaborate with research institutions and organizations to share in-kind resources, secure outside funding, provide for field researchers and support internship programs	Lead: CBNMS		
Identify incremental mechanisms to manage additional sources of revenue	When needed: <ul style="list-style-type: none"> - Establish fiscal agent relationship with existing non-profits to manage grants and donations - Explore vehicles such as individual donations, grants, and events to generate additional sources of revenue. - Build community capacity to generate donations - Support community effort to create non-profit if appropriate. 	Lead: CBNMS Partners: FMSA, PRNSA, NMSF, SAC	FMSA, PRNSA, NMSF, SAC	Fiscal agent, merchandise sales; membership; field seminars; grants; and fund raising events.

Objective 4: Create partnerships to build stewardship to support and advocate for the needs of the Sanctuary.

PROGRAMS/ PROJECTS	BRIEF DESCRIPTION	LEAD/ PARTNERS	INFORMATION SOURCES	<i>PRODUCTS</i>
Create Community Awareness to Encourage Stewardship of the Sanctuary	Develop volunteer opportunities for direct involvement in Sanctuary activities including <ul style="list-style-type: none"> - outreach -office support Begin by leveraging existing high profile organizations in the community.	Lead: CBNMS Partners: SAC	FMSA, PRNSA, State Parks Association, GGNRA Association, Stewards of Slavianka and Oregon State Park and Recreation whale watching programs	Classroom visits, speakers bureau, attending fairs, training program and manual, mailing list, volunteer program plan

Ranking Matrix: Cordell Bank NMS Partnerships with Community Groups

Problem Statement: In order to fully carry out its mission, CBNMS needs to develop community partnerships to maximize its limited resources and to minimize the risk of working in isolation and missing opportunities. Through community partnerships, opportunities will be leveraged to develop public awareness, education, and stewardship; obtain volunteer, financial, and in-kind support; and increase research opportunities.

- Goals:**
1. Maximize partnerships to facilitate the Sanctuary's ability to identify, understand, and protect Sanctuary resources
 2. Instill, within the community, a sense of value and stewardship of the Sanctuary

Objective 1: Create partnerships to further research and monitoring to assist in answering resource management questions

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Develop Partnerships with Research Community	Identify and collaborate with other research entities such as agencies and institutions to secure outside funding, field researchers and internship programs. Facilitate and advise on outreach on CBNMS research to satisfy grant requirements.	A	B	A	B	B	A	ABA BBA	21=2
Work with other agencies to identify common resource management issues/needs.	Based on common resource management issues, identify collaborative research needs to assist in answering and addressing management needs.	A	B	A	A	B	A	ABA ABA	22=1

Objective 2: Create partnerships to establish a strong identity for the Sanctuary within various interests in the community

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Crystallize key messages regarding uniqueness of CBNMS for approaching potential partners	Identify potential segment communities and formalize targeted messages. Integrate into communications plan.	A	A	A	A	B	A	AAA ABA	23=1
Develop Partnerships with Research Community	Identify and collaborate with other research entities such as agencies and institutions.	A	B	A	B	B	A	ABA BBA	21=2
Culture the SAC as a Link to the Community	Identify the SAC's role in reaching out to their constituency and community at large to help raise the profile of CBNMS in Marin, Sonoma, and Mendocino counties.	A	A	A	A	B	A	AAA ABA	23=1
Use Research and Outreach as Tools to Raise the Identity of the Sanctuary in the Marin, Sonoma, and Southern Mendocino counties	Through outreach efforts, bring the research conducted at CBNMS to the community. Use news media as one outreach tool.	A	A	A	A	B	A	AAA ABA	23=1

*Cordell Bank National Marine Sanctuary – Working Group Recommendations
Partnerships with Community Groups Ranking Matrix*

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Use Education as a Tool to Raise the Identity of the Sanctuary in the Marin, Sonoma, Southern Mendocino Counties	Although CBNMS has a significant amount of information, partners are needed to develop curricula and other educational materials. Partner with teachers and other content builders in Marin, Sonoma, and Mendocino county to develop an understanding and appreciation of CBNMS. Projects include: working with teachers on integrating CBNMS information into curriculum, teacher training workshops, student monitoring, and student mentoring.	A	C	B	C	A	A	ACB CAA	19=3

Objective 3: Identify and cultivate potential sources of revenue and in-kind support

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Identify potential research partnerships.	Collaborate with research institutions and organizations to share in-kind resources, secure outside funding, provide for field researchers and support internship programs	A	B	A	B	B	A	ABA BBA	21=2
Identify incremental mechanisms to manage additional sources of revenue	When needed: - Establish fiscal agent relationship with existing non-profits to manage grants and donations - Explore vehicles such as individual donations, grants, and events to generate additional sources of revenue. - Build community capacity to generate donations - Support community effort to create non-profit if appropriate.	A	B	A	B	B	A	ABA BBA	21=2

Objective 4: Build stewardship to support and advocate for the needs of the Sanctuary

Program Title	Program Description	Ranking Criteria						Tally	Bin
		Site Benefits	Complexity	Short-term feasibility	Long-term feasibility	Improved coordination	Urgency		
Create Community Awareness to Encourage Stewardship of the Sanctuary	Develop volunteer opportunities for direct involvement in Sanctuary activities including - outreach - office support Begin by leveraging existing high profile organizations in the community.	A	B	B	C	B	B	ABB CBB	15=3



ISSUE:
RESEARCH

Recommendation to the CBNMS Sanctuary Advisory Council
from the Research Working Group

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WORKING GROUP MEETINGS

MEETING 1:

- Overview of Joint Management Plan Review Process
- Decision Making Process

MEETING 2:

- Development of Problem Statement, Issue Characterization, Goals and Objectives
- Overview of current CBNMS Research Program
- California Academy of Sciences' research pertaining to CBNMS
- Pinniped and seabird research at Point Reyes National Seashore

MEETING 3:

- Overview of California current and the oceanography of CBNMS
- Overview of current and future USGS side-scan sonar and substrate analysis in CBNMS
- Results from recent CBNMS submersible research
- Review of 'straw man' research proposal and discussion of likely components of CBNMS research plan

MEETING 4:

- Developed finalized list of research strategies
- Developed strategy worksheet for Soft-Bottom Habitat and Epifauna

MEETING 5:

- Discussed and finalized research strategies for Action Plan

PROGRAM STATEMENT

Although research and monitoring have been the cornerstone of CBNMS activities, a formalized long-term plan needs to be developed to coordinate these efforts. Research and monitoring will continue to be a high priority and CBNMS staff will integrate the findings of these projects into education and outreach programs. Two specific areas the Sanctuary will focus on: 1) development of a coordinated and integrated research program for CBNMS, and 2) development of a long-term monitoring plan. Scale of various aspects of the ecosystem, both spatial and temporal, will drive how monitoring, research and management issues are addressed.

PROGRAM DESCRIPTION

Specific objectives for research programs at CBNMS include: gathering baseline data on the physical, chemical and biological oceanography of the Sanctuary; identifying impacts on the marine resources from human activities; incorporation of research results into CBNMS' outreach and education programs; and encouraging information exchange on the resources among agencies and institutions. Current research projects include: characterizing habitats, fishes, and invertebrates on Cordell Bank and the surrounding continental shelf and slope; larval recruitment, krill abundance, and distribution of seabirds and marine mammals studies.

RESEARCH GOALS

1. To increase our knowledge and understanding of the Cordell Bank ecosystem.
2. To develop research programs to identify and address specific resource management issues.
3. To develop monitoring programs to understand long-term status and trends to guide management.

RESEARCH OBJECTIVES

1. Characterize the habitats and communities of CBNMS
 - a. Evaluate and synthesize characterization
2. Determine monitoring objectives and indicators and conduct a comprehensive monitoring program
 - a. Identify and understand impacts from human activities on the marine ecosystem
3. Recommend research and monitoring results for inclusion in CBNMS' outreach and education programs
4. Develop new and enhance existing partnerships with other agencies and institutions

RECOMMENDATIONS

OBJECTIVE 1: Characterize the habitats and communities of CBNMS, evaluate and synthesize characterization.

STRATEGY RE-1: *The physical oceanography of CBNMS in large part determines the character of the Cordell Bank ecosystem and yet it is not well understood. To fully characterize the Sanctuary, a complete and detailed understanding of the oceanographic and atmospheric conditions in and around the Sanctuary is needed.*

Action 1.1 Prepare an oceanographic climatology summarizing existing knowledge about the physical oceanography and meteorology of this region. This information will expose voids and shortcomings in the

existing oceanographic and meteorological data so that it will serve as a basis for designing future data collection programs in and around the sanctuary.

- A. Compile existing information and data on oceanographic conditions within CBNMS from monitoring projects and other research efforts.
- B. Conduct desired short-term data analyses from compiled data.
- C. Using compiled data and in partnership with GFNMS, construct a climatology of the oceanographic and meteorological conditions in and around the CBNMS and GFNMS. This document will contain figures, diagrams, satellite images, and tables that illustrate the prevailing environmental conditions together with text that interprets, synthesizes, and summarizes this information. The report will deliver recommendations to the Sanctuary for future studies that are needed to characterize the physical environment in and around the sanctuary.

Priority Level: 1

Partners: GFNMS, MLML, NOAA/NCCOS, Pacific Environmental Laboratory, National Oceanographic Data Center

Implementation Timeline: complete by end of year 1

Product: Climatology report which will include graphical and tabular summaries

STRATEGY RE-2: *Catalog and identify unsorted Cordell Bank specimens housed at the California Academy of Sciences.*

Action 2.1 Generate a voucher specimen database of benthic invertebrates of Cordell Bank.

- A. Existing collections of Cordell Bank specimens at California Academy of Sciences (CAS) will be taxonomically upgraded, computer catalogued, and maintained by CAS as research specimens.
- B. CAS will develop computerized species list for Cordell Bank and provide the data to CBNMS for future investigations.
- C. Specimens of interest will be targeted for subsequent identification, description, and future publication.

Priority Level: 1

Partners: CAS

Implementation Timeline: year 1- hire staff, sort specimens, update database; year 2- assist with sponge ID and publication of results

Product: Computerized database, voucher specimen collection

Action 2.2 Investigate sponge fauna of Cordell Bank as represented in California Academy of Sciences (CAS) collections. Sponges make up a large part of the benthic biomass on Cordell Bank and as such, they may provide important habitat for smaller organisms and demersal fishes. Steps to be taken to better understand the taxonomy and life histories of Cordell Bank sponges are the following:

- A. CAS will identify and describe sponge species collected from Cordell Bank, including undescribed species. Investigations of sponge specimens' life histories will also be performed.
- B. CAS will publish descriptions of all new sponge species and a review of the sponge fauna of Cordell Bank as peer reviewed papers.

Priority Level: 3

Partners: CAS

Implementation Timeline: year 1- hire student assistant at CAS, begin sorting species, provide specimens to experts for identification, develop database; year 2- assist with sponge ID and publication of results, year 3-4- prepare detailed identification and descriptions of Cordell sponges

Product: Descriptions of new sponge species and the sponge fauna of CBNMS, computerized database.

Action 2.3: Continue collaborative studies of other Cordell Bank benthic invertebrates with the California Academy of Science.

- A. As appropriate, partner with CAS on future taxonomy identification, database maintenance, and expansion of specimen collection.

Priority Level: 1

Partners: CAS

Implementation Timeline: year 1-5- identify and conduct projects as appropriate

Product: TBD

STRATEGY RE-3: *Characterize and map habitats within CBNMS using sonar. A habitat map will provide important baseline information for management including: location and relative abundance of habitat types within the Sanctuary, potential suitable habitat for species of concern, extent of habitat damage from trawl disturbance, locations of marine debris, and the current status of Sanctuary resources as a basis against which to measure future change.*

Action 3.1 Collect sonar data to identify habitat types and locations, specifically delineate (1) rocky regions and outcrops within low relief soft bottom areas of Sanctuary, (2) soft and mixed sediments within the bank region, (3) trawl disturbance in soft sediments, and (4) marine debris and submerged cultural resources.

- A. In cooperation with USGS, survey entire Sanctuary using sonar technology. Use of sidescan or multi-beam sonar based on financial resources available and desired outcomes. Analyze information to develop fine-scale bathymetry maps, habitat maps, and maps of marine debris and submerged cultural resources. This information can be used in conjunction with biological surveys to produce habitat suitability models for selected species.

Priority Level: 1

Partners: USGS Coastal and Marine Geology Program, USGS/US Seabed, NOAA/Sanctuary Program, MLML, NOAA Office of Exploration

Implementation Timeframe: year 1- conduct field work and produce preliminary habitat maps; year 2- perform final habitat interpretations and produce GIS products

Products: Cruise report, technical data summary, peer-reviewed article(s), GIS coverage

Complements Other Strategies: Hard-Bottom monitoring, Soft-Bottom Epifauna, Characterization of Oceanography

STRATEGY RE-4: *Survey available museum collections, data archives and literature indexing services for Cordell Bank specimens, data and publications.*

Action 4.1 Conduct a literature, specimen, and data search to compile existing knowledge about Cordell Bank, with particular emphasis on algae, invertebrates, and on generating a verified species list.

Methods should include:

- A. Search natural history museums and other collections for specimens collected at Cordell Bank
- B. Search standard literature indexes for references to Cordell Bank
- C. Search agency and academic electronic databases for references to Cordell Bank

Priority Level: 1

Partners: CAS, Local and national natural history museums, NMSP, USGS, NPS

Implementation Timeline: year 1- complete inventory of all existing data, year 2-5- incorporate new information into existing catalogs

Products: Confirmed species list, List of references, Reprint library, GIS layers, biological and physical data.

STRATEGY RE-5: Characterize and map the soft-bottom habitats and epifaunal* communities of CBNMS.

*epifauna are animals that live in contact with the sea bottom either moving freely over the substrate or attached to it

Action 5.1 Survey the surface biota and sediment characteristics of the soft-sediment portion of the shelf area of CBNMS using appropriate methods.

- A. Conduct survey of soft bottom habitats of CBNMS. Survey will provide habitat assessment, estimates of distribution and abundance of epifauna, assessment of disturbance effects and marine debris, species list of invertebrates, and description of any submerged cultural resources.
- B. Use photographic data from this survey to further classify habitats identified by the sonar survey.
- C. Compare results from soft bottom habitat and epifauna survey to ground truth habitat characterization study.
- D. Incorporate research findings into Sanctuary Education and Outreach programs and messages.

Priority Level: 2

Partners: NMFS, USGS/US Seabed

Implementation Timeline: year 1- conduct field work and publish preliminary habitat maps and data summaries; year 2- complete data analysis and produce final habitat interpretations, species distributions and GIS products. (This timeline assumes fieldwork can occur simultaneously with Strategy RE-3)

Products: Publications and reports (cruise report, technical data summary, peer-reviewed article(s)), photographs (still and video), habitat map, map of submerged cultural resources
Complements Other Strategies: Benthic Infauna, Hard-Bottom, Sonar Habitat Map, Oceanography Strategies

STRATEGY RE-6: Characterize soft bottom infaunal* community of CBNMS.

* infauna are animals that live within or burrow through substrate

Action 6.1: Characterize the infaunal biota of the soft sediment portion of the shelf and slope of CBNMS using literature search and field sampling.

- A. Conduct literature review to obtain current knowledge about infaunal community. Relevant sources may be EPA status and trends information, Minerals Management Service reports, invertebrate collections made by NMFS /NWFSC slope and shelf trawl surveys.
- B. Conduct a one-time baseline survey of infaunal communities of CBNMS. Survey should determine species diversity, distribution, and abundance.
- C. Compare results from infauna survey with habitat mapping to cross-reference results of both studies.

Priority Level: 3

Partners: NMFS slope, NOS/NCCOS, USGS/US Seabed

Implementation Timeline: year 1- Conduct field work and publish preliminary results; year 5- complete data analysis and publish final reports

Products: Publications and reports (cruise report, technical data summary, peer-reviewed article(s)), photographs, additions to species list

Complements Other Strategies: Benthic Epifauna, Hard-Bottom, Habitat Map

STRATEGY RE-7: Characterize the temporal and spatial patterns of marine mammals and birds visiting the CBNMS.

Action 7.1 Assess quantitatively the distribution and abundance of marine birds and mammals relative to ocean conditions, seasons, and biological productivity. This study will initially provide baseline data, but will be continued as long-term monitoring. Study protocol will:

- A. Systematically survey along fixed transect lines and record sightings of the presence of marine birds and mammals within CBNMS.
- B. Assess pelagic ocean habitat by collecting oceanographic data at fixed stations correlation with marine mammal and bird species and abundance. Basic oceanographic data will be taken with a CTD, which measures conductivity, temperature, and depth. Oceanographic data will also be taken visually by the observers. Cross-reference with oceanographic study for correlation with larger-scale oceanographic patterns.
- C. Assess biological productivity by sampling zoo- and phytoplankton using hydro-acoustics and net sampling. Results will be analyzed for correlation with bird and mammal distribution and abundance.
- D. Assess human activity (e.g. disturbance by vessels) through direct observation while at sea.

Priority Level: 2

Partners: NMFS, UC Davis/Bodega Marine Lab, PRBO, Oikonos, Coast Guard, Wind to Whales (CIMT), GFNMS, CDFG/OSPR, CalCOFI, SFSU, H. T. Harvey Consultants, Audubon Society, State Dept of Health, OBIS/SEAMP

Implementation Timeline: Year 1: Develop methods and undertake pilot surveys; year 2-5- Perform monthly surveys, analyze data, report results

Products: Cruise reports, technical data summaries, peer-reviewed articles, fine-scale seasonal distribution maps

Complements Other Strategies: Oceanographic Strategies

STRATEGY RE-8: *Characterize surface and subsurface current patterns at the microcosm scale of CBNMS.*

Action 8.1 Conduct studies of small-scale oceanographic processes within CBNMS, including subsurface currents and measurements of temperature, salinity, and density curves. Studies should focus particularly on processes important to marine life in this region.

- A. Develop a research project to investigate the small-scale oceanographic processes around CBNMS. Deployment of current meter arrays, settling plates, sediment traps, and drifting buoys above the bank and along its flanks will be necessary to establish the patterns of circulation that may be unique to this area.
- B. Develop a research project examining CBNMS oceanographic processes using remote sensing. Begin by analyzing existing satellite imagery (see Action 9.1 for more information). If higher spatial resolution is necessary (as it may be), remote sensing from aircraft may be required.

Priority Level: 3

Partners: GFNMS, NMFS, PRBO, USGS, EPA, MLML, BML, SFSU

Implementation Timeline: year 4- conduct oceanographic field studies and summarize preliminary results; year 5- perform detailed data analysis and prepare final report.

Products: ocean current depictions, regular reports for Sanctuary management
Complements Other Strategies: Marine Mammal and Bird Strategy

■ OBJECTIVE 2: Determine monitoring objectives and indicators and conduct a comprehensive monitoring program

STRATEGY RE-9: *Develop on-going, long-term oceanographic monitoring program.*

Action 9.1 Identify and evaluate usefulness of existing on-going monitoring programs and available sources of data on environmental conditions in and around CBNMS.

- A. Survey existing on-going coastal and oceanographic monitoring programs along the California coast for type and quality of data collected in and around Cordell Bank. Develop protocol for on-going collection, analysis, and use of this information.

Priority Level: 3

Partners: GFNMS, NOS, NMFS, USCG, existing CA coast oceanographic monitoring programs

Implementation Timeline: year 1- Identify and evaluate existing programs (can be done as part of the “Oceanographic Climatology” strategy (Strategy RE-1)); year 2- develop and test systems for collecting and reporting oceanographic monitoring data;
year 3-5- summarize and report oceanographic data on a regular basis

Products: Periodic data reports which summarize oceanographic conditions at CBNMS

Complements Other Strategies: Marine Mammal and Bird Strategy, Oceanographic Field Studies Strategy

Action 9.2 Identify gaps in oceanographic data gathering and analysis by existing monitoring programs and develop appropriate supplemental monitoring program to fill gaps.

- A. If significant gaps in coastal or offshore monitoring are found, initiate additional monitoring. Likely projects would include deployment of monitoring systems at strategic locations to complete a network of environmental sensors that can be used to assess the state of the environment in and around the CBNMS on a continuing basis.

Priority Level: 3

Partners: GFNMS,

Implementation Timeline: year 1- Identify and evaluate existing programs (can be done as part of the “Oceanographic Climatology” strategy); year 2- develop and test systems for collecting and reporting oceanographic monitoring data;

year 3-5- summarize and report oceanographic data on a regular basis

Products: Data to supplement periodic data reports which summarize oceanographic conditions at CBNMS

Complements Other Strategies: Marine Mammal and Bird Strategy, Oceanographic Field Studies Strategy

STRATEGY RE-10: *Maintain on-going monitoring of fish and invertebrate assemblages in relation to the fine-scale habitat of the Bank portion of CBNMS. Continue the existing program that characterizes the Bank’s habitats and faunal communities and identifies locations and quantity of anthropogenic damage including derelict gear and other marine debris. This program can evolve into a long term monitoring effort to track changes in the ecosystem over time, provide data to answer future management questions, and can be expanded to test specific management-related hypotheses.*

Action 10.1 Survey Cordell Bank regularly (1 to 3 year intervals) with the ‘Delta’ submersible to assess fish and invertebrate populations at a fine-scale. This project will include the following components:

- A. Assess and monitor distribution, abundance, and life history (size frequency, age, maturity) of Bank fishes. These tasks will be accomplished using submersible dives, analysis of video footage, and fish samples for genetic determination by hook and line.
- B. Assess and monitor percent cover of invertebrates and distribution and abundance of specific macroinvertebrate species.
- C. Create an inventory of derelict fishing gear and marine debris using submersible transects and video footage.
- D. Use video transects and rock grab samples to further characterize habitats identified by the sonar survey.
- E. Compare the biota of Cordell Bank with other deep reefs along the West Coast (i.e. Bowie Seamount in British Columbia, Point Sur Bank in California, and Heceta Bank in Oregon).
- F. Determine the fish assemblages associated with different habitat types.

Priority Level: 1

Partners: NOAA Fisheries, Washington State University, other West Coast Sanctuaries

Implementation Timeline: year 1-5: perform submersible field surveys (on annual or triennial basis depending on whether or not continental shelf is closed to fishing). Analyze data and report results.

Products: Cruise report, technical data summary, peer-reviewed article(s), habitat map, photographs (still and video)

Complements Other Strategies: Literature, Specimen, and Data Inventory strategy, Benthic Infauna, Benthic Epifauna, Habitat Map, all Oceanography strategies

Action 10.2 Use hook and line to collect fish specimens for directed research projects.

- A. Verify submersible estimates of fish size and acquire voucher specimens to support submersible identifications.
- B. Compile life history data (size frequency, age, maturity etc).
- C. Obtain genetic determination of fish population structure

Priority Level: 1

Partners: NMFS

Implementation Timeline: year 2 –5- collect fishes by hook and line on submersible surveys and perform life history studies.

Products: Life history data, peer-reviewed article(s), habitat map photographs (still and video)

Complements Other Strategies: Literature, Specimen, and Data Inventory Strategy

STRATEGY RE- 11: *Marine mammal observations using ships of opportunity.*

Action 11.1 Monitor the distribution and abundance of marine mammals using volunteer observers riding on ships of opportunity (wildlife viewing trips).

- A. Identify and partner with wildlife viewing tour companies to collect data on marine mammal locations and/or provide platform for volunteer monitors.
- B. Develop volunteer whale observer corps to opportunistically collect qualitative data on distribution and abundance of marine mammals from wildlife viewing trips. Data collected will include species, number, location, weather, and sea conditions.

Priority Level: 2

Partners: Oceanic Society, Coast Guard

Implementation Timeline: year 4- develop study plan and undertake pilot studies. Publish plan and preliminary results; year 5- conduct regular surveys and publish data summaries annually. NOTE: This project can be started in year 1 if Strategy RE-7 is not done.

Complements Other Strategies: Quantitative Marine Mammal and Bird Monitoring Strategy

STRATEGY RE-12: *Monitor the temporal and spatial patterns of marine mammals and birds visiting the CBNMS.* (See Strategy RE-7)

Action 12.1 Assess quantitatively the distribution and abundance of marine birds and mammals relative to ocean conditions, seasons, and biological productivity. This study will initially provide baseline data, but will be continued as long-term monitoring.

■ OBJECTIVE 3: Recommend research and monitoring results for inclusion in CBNMS' outreach and education programs

Findings from all research strategies listed above should be incorporated into CBNMS Education and Outreach programs. (see specifically Strategy RE-5.1.D)

■ OBJECTIVE 4: Develop new and enhance existing partnerships with other agencies and institutions

All research strategies listed above will require working with other agencies and institutions to accomplish each objective. Strategies that expressly rely upon the development or enhancement of partnerships include:

STRATEGY RE-2: *Catalog and identify unsorted Cordell Bank specimens housed at the California Academy of Sciences.*

(See Strategy RE-2 listed above for additional details of this Strategy)

Action 2.4 Partner with CAS by sharing resources and information to jointly generate a voucher specimen database. CAS will provide staff time for project management and long-term specimen maintenance and archiving.

STRATEGY RE-3: *Characterize and map habitats within CBNMS using sonar. A habitat map will provide important baseline information for management including: location and potential suitable habitat for species of concern, extent of habitat damage from trawl disturbance, locations of marine debris, and the current status of Sanctuary resources as a basis against which to measure future change.*

(See Strategy RE-3 listed above for additional details of this Strategy)

Action 3.2 Partner with USGS to complete sonar sampling of the entire CBNMS by providing ship time and other resources in exchange for USGS sonar equipment and expertise.

STRATEGY RE- 11: *Marine mammal observations using ships of opportunity.*

(See Strategy RE-11 listed above for additional details of this Strategy)

Action 11.1 Monitor the distribution and abundance of marine mammals using volunteer observers riding on ships of opportunity (wildlife viewing trips).

- A. Identify and partner with wildlife viewing tour companies to collect data on marine mammal locations and/or provide platform for volunteer monitors.



SITE-SPECIFIC
Internal Team
RECOMMENDATIONS

- I.
Administration
- II.
Boundary Modifications



SITE-SPECIFIC ISSUE: **ADMINISTRATION**

Recommendation to the CBNMS Sanctuary Advisory Council
from the Administration Internal Team

PROGRAM STATEMENT

In order for Cordell Bank National Marine Sanctuary to build a management plan that is effective in addressing the priority site-specific and cross-cutting resource management issues, as identified through the management plan review process, CBNMS will need to strengthen its infrastructure by adding staff and financial resources to its base budget. In addition to basic infrastructure needs, some administrative areas that will be addressed include: building partnerships; improving interagency coordination; and addressing regulatory and enforcement issues.

PROGRAM DESCRIPTION

Since its designation in 1989, the Sanctuary has grown from having no staff or budget to a dedicated staff of four and a budget of \$528,000. The first full time staff member was hired in 1995, but was funded by Gulf of the Farallones National Marine Sanctuary. In 1998, a \$129,000 budget was allocated, in 2000 two additional staff were hired, and in 2003 a manager was hired.

Administrative roles for managing the Sanctuary are shared between Cordell Bank National Marine Sanctuary manager and the National Marine Sanctuary Program (NMSP). The National Marine Sanctuary Program provides oversight and coordination among the thirteen National Marine Sanctuaries by developing a framework for resource management, and directing program and policy development. The Sanctuary manager oversees site specific management functions including implementation of the management plan. The management plan makes use of two complementary and strategic tools for ecosystem management: 1) programs, or action plans, carried out through research, education, and marine resource protection programs, and 2) regulations, for controlling or restricting human behavior that is not compatible with resource protection. The Sanctuary manager establishes who is responsible for implementing specific programs, provides an administrative framework to ensure that all resource management activities are coordinated, and provides and manages an appropriate infrastructure to meet the goals and objectives of the management plan. The Sanctuary manager reports directly to the National Marine Sanctuary Program. In this capacity, the Sanctuary manager represents the National Marine Sanctuary Program and is the primary spokesperson for Cordell Bank National Marine Sanctuary.

The National Marine sanctuary Program and the Cordell Bank National Marine Sanctuary are committed to coordinating with other federal, State and local agencies in a continuous ecosystem management process. This process is designed to ensure the long term protection of the unique resources of this region, while considering the demands of multi-use interests. Because of the complexity of managing the activities and resources in the Sanctuary, cooperative efforts are necessary to effectively meet Sanctuary goals. Overlapping jurisdictions, different agency mandates and limited resources necessitate the development of a management plan that brings together multiple institutions for the common purpose of ecosystem management. Achieving the long and short term goals for this region requires the development of a close and continuing partnerships.

ADMINISTRATIVE STRUCTURE

All thirteen National Marine Sanctuaries are managed by the National Marine Sanctuary Program (NMSP). The NMSP takes responsibility for ensuring that the management plan prepared for each Sanctuary is coordinated and consistent with the National Marine Sanctuaries Act. On an annual basis, the NMSP reviews and adjusts funding priorities and requirements to reflect resource management needs at each of the thirteen National Marine Sanctuaries. The NMSP also establishes policy and priorities in response to specific needs and issues at each site. NMSP and the site manager monitor the effectiveness of the management plan, both regulations and programs, and may make recommendations to promulgate changes where necessary. The NMSP and the site manager coordinate efforts to protect and manage Sanctuary resources with other federal, state, regional and local agencies.

SANCTUARY MANAGER

The Cordell Bank National Marine Sanctuary manager recommends to the National Marine Sanctuary Program priorities for annual allocation of funds for site-specific resource protection needs. The manager reports to the NMSP on surveillance and enforcement activities, violations and emergencies. The manager coordinates with the NMSP on evaluating, processing and issuing of permits; monitors and evaluates research, education, and marine resource management programs; oversees staffing needs and requirements; coordinates on-site efforts of all parties involved in Sanctuary activities including state, federal, regional and local agencies. Finally, the manager evaluates overall progress toward the resource protection objectives of the National Marine Sanctuary Program and prepares regular reports highlighting progress made in realizing these goals.

SANCTUARY STAFF

Under the direction of the Sanctuary manager, the Sanctuary staff is directly responsible for implementation of the management plan. Although each staff member is assigned to one of the program areas, collectively the staff is responsible for coordinating their efforts in addressing resource management issues.

SANCTUARY ADVISORY COUNCIL

The Sanctuary Advisory Council (SAC) has been structured in accordance with the Federal Advisory Committee Act (FACA). The SAC, with its expertise, and broad based representation, offers advice to the Sanctuary manager on resource management issues and decisions. Cordell Bank National Marine Sanctuary's Sanctuary Advisory Council representation includes six agency and stakeholder representative, each seat has an alternate. The SAC is representative of a broad based constituency to ensure that the manager has a broad information base upon which to make management decisions.

IMPLEMENTATION OF THE MANAGEMENT PLAN

Each of Cordell Bank National Marine Sanctuary's program areas: education and outreach; research and monitoring; and marine resource protection, have outlined action plans for implementing management plan strategies. These action plans are designed to directly address resource management issues and guide management of Cordell National Marine Sanctuary over the next five years.

Action plans are purposely designed with only preliminary implementation guidelines as their parameters may change in the future. The action plans presented in the management plan address current resource management issues identified as priorities by the Sanctuary during the three-year management plan review process. The implementation of these action plans is highly dependent on available staffing and financial resource allocation.

Implementation of the new management plan will require: coordination within and between action plans; sharing of staff and financial resources between program areas; cooperation and coordination among many Federal, State and local government agencies, as well as private organizations and individuals.

Cordell Bank Sanctuary's administration provides an organized structure and support system for implementing management strategies while providing the flexibility and guidance necessary to address changing, new and emerging resource management issues.

IMPLEMENTATION COSTS

Operating funds for Sanctuary management come from Federal appropriations to the National Marine Sanctuary System. These funds cover expenses such as personnel salaries, vessel maintenance, property rental, equipment and supplies.

In addition to calculating operating costs, Cordell Bank National Marine Sanctuary will perform an estimated cost analysis for carrying out each of the program areas. This analysis is necessary in order to secure appropriate and adequate funding for implementation of the management plan over the next five years.

Unpredictable and variable funding for staff and program development over the next five years may affect specific aspects of the Sanctuary management plan. The scale and scope of certain programs may be modified due to any unforeseeable changes in the level of funding, however the goals and objectives of the plan will remain unchanged.

OTHER MANAGEMENT TOOLS

With limited staff and financial resources, partnerships are an integral part of successful ecosystem management of Cordell Bank National Marine Sanctuary. The Cordell Bank Sanctuary manager may draw from a selection of standard management tools to formalize relationships with other Federal, State and local agencies or the private sector. The partnership mechanisms listed below require approval by General Counsel Ocean Services, with oversight by the Sanctuary manager:

MEMORANDUM of UNDERSTANDING (MOU)/ MEMORANDUM of AGREEMENT (MOA)

establishes a formal relationship between two or more entities for general purposes, or for a specific purpose or project, that is expected to continue for an extended period of time. This mechanism cannot be used to transfer funds, but generally addresses commitment of resources.

LETTER of AGREEMENT/ LETTER of UNDERSTANDING

is an informal mechanism used to establish a relationship between two or more entities, for a specific project or purpose, for a short period of time. This mechanism cannot be used to transfer funds.

INTERAGENCY AGREEMENT

is used when one agency has expertise, equipment, and/or personnel to perform work more efficiently than another, and it is in the government's interest to do so. Generally, funds are transferred to the agency carrying out the work.

COOPERATIVE AGREEMENT

provides funding to a non-Federal entity for a project/product that benefits the public. Cooperative agreements are the primary mechanism used for financial assistance. NOAA must serve as the Program officer on the cooperative agreement with financial oversight maintained by the Grants Management Division.

GRANT

provides funding to a non-Federal entity for a project/product that benefits the public and in which NOAA does not need/want to have substantial involvement. A grant is considered one of the major kinds of

financial assistance and must be awarded competitively or include a sole source justification. NOAA must serve as the program officer with financial oversight maintained by the Grants Management Division.

CONTRACT

is a mechanism used by the Federal government to procure goods and services. A contract must be awarded competitively or include a sole source justification. The program office has administrative oversight. During the term of the contract, financial oversight is maintained by the Finance Services Division.

JURISDICTIONAL SETTING

Although the Sanctuary does coordinate with state agencies such as California Department of Fish and Game and the California Coastal Commission, Cordell Bank National Marine Sanctuary lies entirely in federal waters. Federal jurisdictional partners include:

UNITED STATES COAST GUARD (USCG) holds broad responsibility for enforcing all Federal laws throughout the Sanctuary and assists NOAA in the enforcement of Sanctuary regulations. USCG provides on-scene coordination with Regional Response Center facilities under the National Contingency Plan for removal of oil and hazardous substances in the event of a spill that threatens Sanctuary resource.

NATIONAL MARINE FISHERIES SERVICE (NMFS) has responsibility along with the California Dept. of Fish and Game, under the Magnuson Fishery Conservation Act (MFCMA), on approving and enforcing Fishery Management Plans (FMPs) prepared by regional fishery management councils to ensure protection of fishery resources. NMFS also shares responsibility with the Fish and Wildlife Service for the implementation of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) to prevent taking of any endangered, threatened or otherwise depleted species.

ENVIRONMENTAL PROTECTION AGENCY (EPA) has regulatory responsibilities with regard to sewage outfalls (under the Clean Water Act) via National Pollutant Discharge Elimination System (NPDES Permits), and ocean dumping (under Title I of the Marine Protection, Research, and Sanctuaries Act) to protect water quality.

ADMINISTRATION GOAL

To build a strong foundation which supports the development of: effective program areas, a strong regulatory framework and an array of partnerships, that allows for growth in addressing the priority issues and recommendations laid out in the management plan.

ADMINISTRATION OBJECTIVES

1. Develop a structured administrative framework to continuously evaluate, maintain and expand, when necessary, administrative operations.
2. Identify appropriate staffing, budget levels and facility needs to support implementation of the management plan.
3. Continue to build on partnerships, collaborative efforts and coordination with other agencies, institutions and organizations

ADMINISTRATION RECOMMENDATIONS

■ OPERATIONS

STRATEGY AD-1: *Cordell Bank National Marine Sanctuary's main office is located in Bear Valley on the grounds of Point Reyes National Seashore near Olema, California. In the future, satellite offices and visitor centers will be located throughout the region as deemed necessary. Additional Sanctuary facilities may be developed through various partnerships with both the public and private sector.*

Action 1.1 Expand the current main office space and increase storage capacity at Bear Valley (Red Barn) facility to accommodate additional staffing needs and allow for future growth.

Action 1.2 Increase presence in Bodega Bay, the nearest access point to Cordell Bank National Marine Sanctuary, by opening a satellite office that would serve both research and outreach needs and assist in the further development of partnerships.

Action 1.3 Work with the Point Reyes National Seashore to identify intern/researcher housing options on Park lands. Several possible sites (existing buildings) have been identified and preliminary investigations into potential partnerships are taking place. Formalized agreements may include the Sanctuary providing restoration and maintenance funds in return for use of the building(s).

Action 1.4 Increase the Sanctuary staff's ability to access the marine waters of the Sanctuary by expanding vessel capabilities and contracting more vessel time to support research and monitoring efforts. Currently, the Sanctuary's research vessel C. Magister, a 33' Gaski, serves as a day-use platform supporting research efforts of the Sanctuary and its partners.

Action 1.5 Complete priorities and implement facilities plan for visitors centers and outreach venues. CBNMS⁷ has identified a number of outreach opportunities that cover the Sanctuary's interpretive needs from both geographical and thematic points of view. The proposed plan covers a geographic area from Oakland, CA to Salt Point in Sonoma County, and includes shared signage with Gulf of the Farallones Sanctuary. Outreach and interpretive exhibit venues being considered include:

- A. Bear Valley Visitors Center at Pt. Reyes National Seashore headquarters has offered space to CBNMS for its exhibit needs. The visitors center has 450,000 visitors per year from school children to local and recreational users.
- B. Pt. Reyes Lighthouse is the closest landfall to CBNMS and offers two vacant buildings next to the Lighthouse for wayside signage or other forms of exhibitry.
- C. The Oakland Museum of California is undergoing an \$80M renovation that includes re-installation of its science wing, with a greater emphasis on marine education. CBNMS has been approached to enter a long-term partnership that would include exhibitry and outreach opportunities, with a focus on minorities and low-income families.
- D. Bodega Marine Lab is the marine research arm of UC Davis, and the center of marine research on the north coast. CBNMS, in partnership with GFNMS, is proposing to update and expand its interpretive panels at the Lab.
- E. Fort Ross State Park celebrates the Russian presence in northern California in the 19th century during the heydays of the Russian-American Company. It also tells the story of local Native American tribes who fished and hunted in the area. CBNMS and GFNMS are

proposing to develop wayside signage themed on wildlife watching, including tidepool etiquette and marine mammal viewing.

- F. The Ken C. Patrick Visitor Center, on Drake's Beach, at Point Reyes National Seashore focuses almost entirely on marine life and cultural maritime heritage. CBNMS is proposing to add signage to the facility.
- G. Salt Point State Park is a major access point for recreational scuba divers. CBNMS proposes to create signage on marine stewardship and wildlife watching etiquette (diving, whale watching, marine mammals, seabirds and rocky intertidal). Additional signage would provide a map of the Sanctuary and its mission. An interactive kiosk could be placed at the campground.
- H. Bodega Head State Park is the best vantage for getting a perspective of GFNMS and CBNMS. This is a popular whale-watching and sunset watching location. GFNMS and CBNMS propose to build a permanent whale-watching station modeled after one under construction at Beach 6, along the Olympic coastline.
- I. Gleason Beach, Marshal Gulch, North Salmon Creek Beach and Salmon Creek are pullout areas, all located between Fort Ross and Bodega Bay, present perfect wayside signage that could interpret various Sanctuary themes.
- J. Duxbury Reef currently has a two-paneled sealed kiosk interpreting the intertidal habitats, intertidal etiquette and a description of the Sanctuaries (CBNMS and GFNMS). CBNMS will propose to replace the kiosk with an updated version.
- K. Pacific Coast Learning Center (PCLC) at Point Reyes National Seashore is part of a network of centers across the nation facilitating science-based management and education. CBNMS is interested in participating in the construction of a wet lab in a barn for shared research needs that would be co-developed with Point Reyes National Seashore.

■ STAFFING

STRATEGY AD-2: *The primary focus of Cordell Bank National Marine Sanctuary is marine resource protection. Basic staffing requirements must provide support for administration and the program areas of research/monitoring, education/outreach, and marine resource management. (also see Community Partnerships recommendations)*

Action 2.1 Sanctuary staff skills should collectively represent expertise in policy, marine resource management, education, outreach, volunteer development, research, monitoring, GIS, communications technology, and administration. The actual number and expertise of staff will depend on budget allocations and the operating priorities of Cordell Bank Sanctuary. In order to meet the objectives of this management plan, minimum staffing requirements have been laid out (see pg. 11).

Action 2.2 Each staff member must exhibit general knowledge about all CBNMS program areas; and the ability to effectively communicate with constituents, other professionals, and the community at large. In an effort to attract and maintain a consistent and high caliber staff base, the Cordell Bank Sanctuary manager will allocate 1.5% of the base budget, and offer and encourage staff participation in professional development.

Action 2.3 Formalize research internship program to provide necessary support and expertise to develop and implement Sanctuary research and monitoring programs.

- A. Formalize partnerships with the National Park Service, academic and research institutions (see partnerships below) in order to establish a well supported and long-term internship program.
- B. Complete negotiations with Point Reyes National Seashore or Bodega Marine Lab to establish a partnership to provide housing for CBNMS interns and researchers.

■ PARTNERSHIPS

Strategy AD-3: *With limited staff and financial resources, Cordell Bank National Marine Sanctuary will need to develop partnerships, and identify outside funding sources, and in-kind services to assist in the implementation of the management plan.*

Action 3.1 In partnership with regional research institutions and agencies, coordinate on establishing an internship program with graduate students to assist the Sanctuary in monitoring and research priorities.

- A. Develop a Memorandum of Understanding with Bodega Marine Lab to provide on-going support for a graduate student internship program.
- B. Develop a Memorandum of Understanding with Moss Landing Labs to provide on-going support for a graduate student internship program.
- C. Develop a Memorandum of Understanding with Romberg/Tiburon to provide on-going support for a graduate student internship program.
- D. Develop a Memorandum of Understanding with Pt. Reyes National Seashore to provide housing for graduate student internship program.

Action 3.2 Expand informal working relationship with National Marine Fisheries Service and United States Geological Survey. Partnership activities include coordination on research projects, data analysis and cruise operations.

STRATEGY AD-4: *As the Sanctuary Advisory Council matures and develops a strong voice within the community, its role in resource management should be more clearly defined. With experience, the SAC will develop and can draw on a historical framework for on-going community-based decision making as they assume a leading role in providing advice to the Sanctuary manager.*

Action 4.1 In consultation with the SAC, strengthen the structure of the SAC by: evaluating and amending as necessary the SAC charter; evaluating and developing organizational strategies to enhance the SAC's level of participation and effectiveness; evaluating and adjusting if necessary the representation of SAC membership; and providing support to help the SAC develop a respected voice in the community.

Action 4.2 Identify the role of the SAC in addressing resource management issues by developing a format for assisting in the building of CBNMS policies and procedures.

Action 4.3 Provide support, resources, and guidance to help the SAC engage and educate the public about current, new, and emerging resource management issues in the Sanctuary.

Action 4.4 SAC members will be asked to serve on various SAC working groups. Working groups will be convened by the SAC to focus on specific issues and to allow for participation by additional stakeholders and community experts.

■ INTERAGENCY COORDINATION

Strategy AD-5: *NOAA and Cordell Bank National Marine Sanctuary recognize all other authorities in and around Sanctuary waters as important components of effective ecosystem management. Therefore, CBNMS' regulations complement or supplement, but do not replace existing authorities. To ensure coordination and cooperation with Federal, State and local jurisdictions within or adjacent to the Sanctuary, CBNMS seeks to formalize intra- and interagency efforts.*

Action 5.1 CBNMS will engage other agencies in reviewing each other's actions, responding to Environmental Impact Statements, participating on Sanctuary panels and working groups. Building agency relationships allows for: coordinating the development of policies at the Federal, State and local level; the sharing of research and education resources and; the opportunity to work together to identify resource management issues.

Action 5.2 Formalize agreements with Federal/State co-trustee managers signaling that the cooperative and integrated management approach established for the Cordell Bank National Marine Sanctuary has been adopted by other agencies. To formally implement cooperative management of the Sanctuary a number of separate types of agreements may be entered into, including: Cooperative Agreements, Memorandums of Understanding, Memorandums of Agreement, and Consultation.

Action 5.3 Cordell Bank National Marine Sanctuary seeks to formalize agreements for the following programs: 1) Protected Resources Enforcement Plan (USCG, NMFS) (see below), and 2) Emergency Response Plan (local, State and Federal emergency response agencies).

■ PROTECTED RESOURCES ENFORCEMENT PLAN

STRATEGY AD-6: *Strive to achieve resource protection through compliance with Sanctuary regulations and other applicable State and Federal statutes.*

Action 6.1 Insure sufficient patrol presence in the Sanctuary through the development of partnerships and interagency coordination, including cross-deputation with National Marine Fisheries Service (NMFS). Additionally, CBNMS needs to maintain an active enforcement relationship with the United States Coast Guard (USCG).

Action 6.2 Use interpretive enforcement as a tool to inform and encourage voluntary compliance with Sanctuary regulations. Interpretive enforcement may be used to affect behavior and change values as it is generally believed, that once informed, most individuals will choose to take the right action. Interpretive enforcement efforts will include:

- A. Train law enforcement entities to use interpretive enforcement.
- B. Develop signage program at Bodega Harbor.

- C. Work with California Dept. of Motor Vehicles to include informational inserts in boat license renewal packets (to be coordinated with all California National Marine Sanctuaries).
- D. Presentations at yacht clubs, and the Coast Guard Auxiliary.
- E. Follow-up letters to possible violators with “you may be in violation” notices that inform the boater about Sanctuary regulations.

Action 6.3 Work with other West Coast sanctuaries on developing a coordinated and consistent regional outreach theme about discharges in sanctuaries from cruise ships.

- A. Use Sanctuary Program regional representative to communicate with cruise line industry on compliance with sanctuary discharge regulations and identify satisfactory alternatives to the discharge of sewage, solid waste and other material from cruise ships transiting sanctuary waters.

■ EMERGENCY RESPONSE

STRATEGY AD-7: *Be prepared to respond to an emergency in or adjacent to the Sanctuary by developing a plan for a seamless operation in cooperation with other Federal, State and local emergency response agencies in California.*

Action 7.1 CBNMS will review and revise its emergency response plan, based on the Incident Command System (ICS) and the U.S. Coast Guard’s Area Contingency Plan (ACP), to respond to oil spills, hazardous material spills, grounded vessel or natural disasters. The response plan will also be reviewed, evaluated and updated on an annual basis. CBNMS’ emergency response plan will:

- A. Layout emergency response notification (including all relevant agencies, user groups and media) and preparation procedures.
- B. Identify specific duties for Sanctuary staff.
- C. Develop damage assessment guidelines.

Action 7.2 All Sanctuary staff will be trained on an on-going basis with regular updates and refresher courses, and ready to respond in the case of an emergency. Staff training to include:

- A. Understanding the Incident Command System.
- B. Familiarization with the area contingency plan.
- C. Assigned emergency response duties.
- D. Taking part in emergency response drills.
- E. Developing resource damage assessment skills.

■ PLANNING AND EVALUATION

STRATEGY AD-8: *Cordell Bank National Marine Sanctuary will continuously measure and evaluate the successes and challenges of the strategies put forth in the five-year management plan. Based on the outcome of these evaluations, the Sanctuary will modify existing programs and make recommendations for the future that best support the Sanctuary's primary objective of resource protection.*

Action 8.1 Use the Site Report Card developed by the National Marine Sanctuary Program as a tool for quickly measuring the overall management performance of the site. Using a series of indicators, the report card allows the Sanctuary manager and staff to evaluate site effectiveness in a variety of management categories such as “species protection” and “ecosystem management”.

Action 8.2 Work with National Marine Sanctuary headquarters staff to develop performance indicators for program areas (research/monitoring; education/outreach; and resource protection) identified in the management plan. The performance indicators are designed to measure “desired outcomes” of specific actions, and identify a specific target or objective for the particular program area. The purpose of the performance measures are to:

- A. Highlight successful (and not so successful) efforts of site management.
- B. Improve accountability.
- C. Keep the public, other resource managers, regional interests, and Congress informed of Sanctuary effectiveness.
- D. Help sites identify specific resource management needs. Ensure the site is always connected to current management issues.

Action 8.3 Cordell Bank National Marine Sanctuary administrative framework will not only provide a foundation and support for carrying out current Sanctuary programs, but is preparing for, and strengthening the infrastructure for the future. Based on the results of the Site Report Card and performance indicators, the Sanctuary manager will provide oversight and guidance for the future of the site through the following measures:

- A. Reviewing resource management strategies.
- B. Identifying emerging resource management issues.
- C. Identifying and securing additional funding sources.
- D. Providing support for strengthening program areas.
- E. Strengthening existing and securing new partners.
- F. Providing support for staff development.
- G. Taking a leadership role in marine resource management policy development.

■ REGULATIONS AND PERMITTING

Strategy AD-9: *Evaluate the appropriateness and effectiveness of current Sanctuary regulatory language (prohibitions) (15 CFR ss922) in addressing the priority resource management issues identified in the management plan review process.*

Action 9.1 Cordell Bank National Marine Sanctuary uses two complementary and strategic tools to carry out an ecosystem management approach: 1) programs, or action plans, which address resource management issues through the use of education and outreach, research, and resource protection, and 2) regulations, which help establish priorities for guiding or restricting human behavior that may not be compatible with resource protection (see Appendix). The Sanctuary will propose to update current regulatory language and propose new regulatory actions recommended by the working groups, as appropriate. The following proposed regulatory changes are being considered:

PROPOSED CHANGES TO EXISTING REGULATIONS

A. (1)(i) *Depositing or discharging, from any location within the boundary of the Sanctuary, material or other matter of any kind except: (A) Fish, fish parts, chumming materials (bait) produced and discarded during routine fishing activities conducted in the Sanctuary; and (B) Water (including cooling water) and other biodegradable effluents incidental to use of a vessel in the Sanctuary and generated by: Marine sanitation devices approved by United States Coast Guard; routine vessel maintenance, e.g., deck wash down; engine exhaust; or meals on board vessels.*

- Section (A), define chumming materials
- Section (B), develop language that is consistent with revised Federal Water Pollution Control Act (FWPCA) language and newer Sanctuary language

B. (ii) *Depositing or discharging, from any location beyond the boundaries of the Sanctuary, material or other matter of any kind, except for the exclusions listed in paragraph (a)(1)(i) of this section, which enter the Sanctuary and injure a Sanctuary resource.*

- Onus should be on user to show no injury to a Sanctuary resource

C. *Removing, taking or injuring or attempting to remove, take or injure benthic invertebrates or algae located on Cordell Bank or within the 50 fathom isobath surrounding the Bank. There is a rebuttable presumption that any such resource found in possession of a person in the Sanctuary was taken or removed by that person. This prohibition does not apply to accidental removal, injury or takings during normal fishing operations.*

- The exception would only apply to hook and line fishing

PROPOSED CHANGES TO BOUNDARY DESCRIPTION

D. Change the boundary description from “area of marine waters” to “area of submerged lands” to be consistent with other newer sanctuaries.

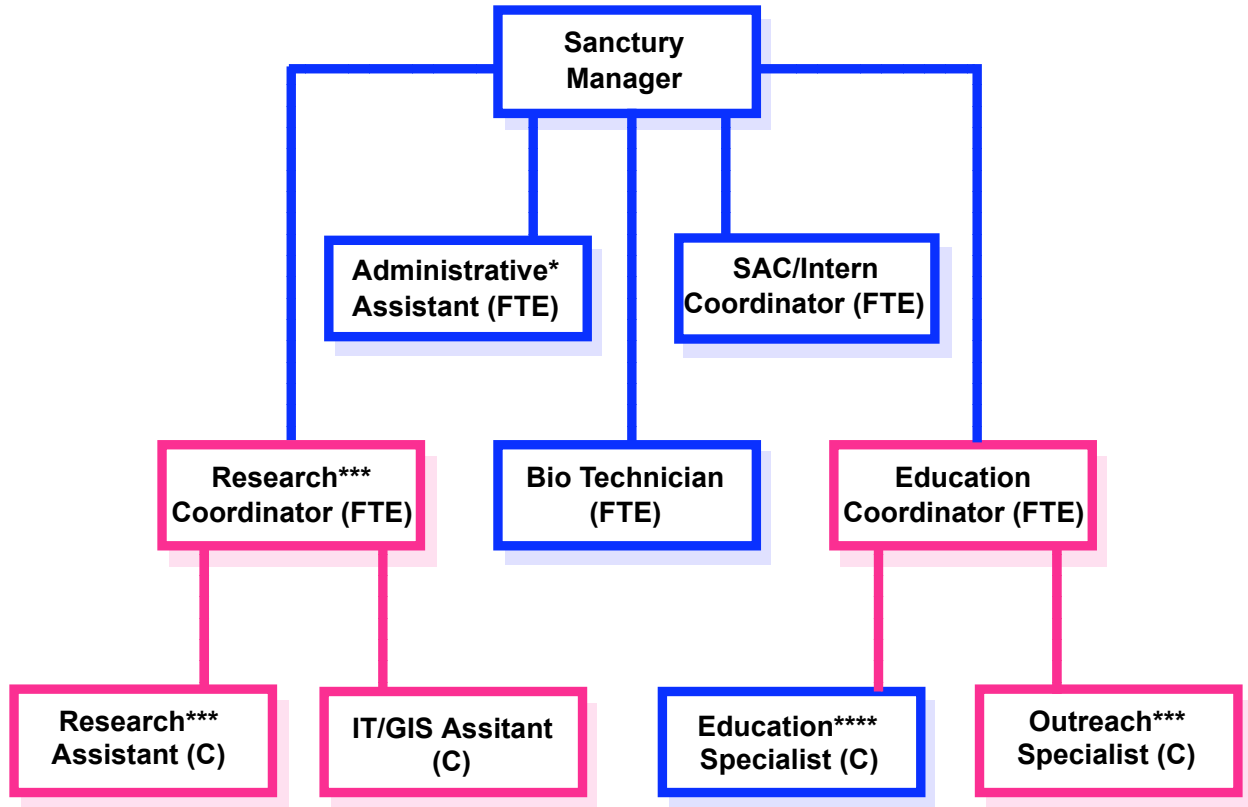
PROPOSED NEW REGULATIONS

E. No disturbing the submerged lands of the Sanctuary on the Bank, or within the 50 fathom isobath around the Bank, except to anchor beyond the 50 fathom isobath.

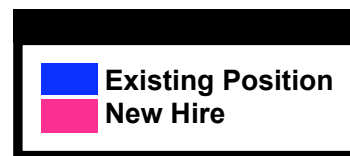
F. Taking any marine mammal, marine reptile or seabird.

- G. Lightering in the Sanctuary.
- F. Introducing an exotic species or genetically modified species.
- G. Feeding or attracting a living resource, except for lawful fishing.
- H. Adopt a cruise ship discharge prohibition consistent with MBNMS' new proposal.

Cordell Bank National Marine Sanctuary
PROPOSED STAFFING PLAN



-
- * Requires budget and finance experience
 - *** To be located in Bodega Bay
 - **** Requires web experience
 - FTE Full time government employee
 - C Contractor





SITE- SPECIFIC ISSUE: **BOUNDARY MODIFICATIONS**

Recommendation to the CBNMS Sanctuary Advisory Council
from the Boundary Modifications Internal Team

ISSUE STATEMENT

Taking into account public interest in boundary modifications, Cordell Bank National Marine Sanctuary will look at areas beyond the current Sanctuary boundary to determine what would be gained by expanding the boundary. NOAA recognizes the diversity and interconnectedness of the marine resources beyond the discreet ecological unit defined by Cordell Bank, and may find it necessary to protect an enlarged area that is consistent with, and provides ecosystem support for the marine waters surrounding the current Cordell Bank National Marine Sanctuary. At this time, additional information is required to evaluate the need for boundary modifications and determine the value of including these areas in an expanded boundary.

ISSUE DESCRIPTION

During the designation process for all National Marine Sanctuaries, a range of boundary options are proposed, and modified, before a final boundary is chosen. Sanctuaries are designed to protect areas of special significance. Areas of special significance may include unique natural resources and ecological qualities; biogeographic representation; threatened and/or endangered species; or important ecosystem structure features. In addition to protecting areas of special significance, boundaries alternatives take into consideration existing authorities; human use activities; their impacts on the marine resources; and added value of sanctuary designation in addressing these issues. The management plan review process provides an opportunity to re-examine, evaluate, and, as appropriate, redefine a sanctuary's boundary based on new information. Areas to the north and west of the current CBNMS boundary, particularly Bodega Canyon, will be considered.

If a boundary modification is proposed, it would be redefined to be consistent with Sec.301. of the National Marine Sanctuaries Act (NMSA) as amended by public law 106. NOAA would take an ecosystem approach in proposing a redefined boundary to better reflect the statutory guidelines described in the Act that include: "the area's natural resource and ecological qualities, including its contribution to biological productivity, maintenance of ecosystem structure, maintenance of ecologically or commercially important threatened species or species assemblages, maintenance of critical habitat of endangered species, and the biogeographic representation of the site" (NMSA). Included in any proposed boundary would be additional biological, ecological, geological and physical features that make a significant contribution to defining the ecosystem of the current Cordell Bank National Marine Sanctuary.

JURISDICTIONAL SETTING

Although the Sanctuary does coordinate with state agencies such as California Department of Fish and Game, and the California Coastal Commission, Cordell Bank National Marine Sanctuary lies entirely in federal waters. Federal jurisdictional partners include:

UNITED STATES COAST GUARD (USCG) holds broad responsibility for enforcing all federal laws throughout the Sanctuary and assists NOAA in the enforcement of Sanctuary regulations. USCG provides on-scene coordination with Regional Response Center facilities under the National Contingency Plan for removal of oil and hazardous substances in the event of a spill that threatens Sanctuary resource or qualities.

NATIONAL MARINE FISHERIES SERVICE (NMFS) has responsibility along with the California Dept. of Fish and Game, under the Magnuson Fishery Conservation Act (MFCMA), on approving and enforcing Fishery Management Plans (FMPs) prepared by regional fishery management councils to ensure protection of fishery resources. NMFS also shares responsibility with the Fish and Wildlife Service for the implementation of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) to prevent taking of any endangered, threatened or otherwise depleted species.

ENVIRONMENTAL PROTECTION AGENCY (EPA) has regulatory responsibilities with regard to sewage outfalls (under the Clean Water Act) via National Pollutant Discharge Elimination System (NPDES Permits), and ocean dumping (under Title I of the Marine Protection, Research, and Sanctuaries Act) to protect water quality.

BOUNDARY MODIFICATIONS GOAL

As it is appropriate, based on specific boundary recommendations, Cordell Bank National Marine Sanctuary will bring together key National Marine Sanctuary staff and partners to work through a process, designed by the group, to generate a framework for evaluating boundary modifications using clear and concise analytical thinking and teamwork.

BOUNDARY MODIFICATIONS OBJECTIVE

To develop and implement an analytical process designed to evaluate boundary alternatives relative to CBNMS using the best available information and resources.

BOUNDARY MODIFICATIONS RECOMMENDATIONS

STRATEGY B-1: *Develop a framework for identifying and analyzing boundary options.*

Action B-1.1: Develop an incremental process for gathering information, analyzing the data, and developing a recommendation on boundary options. This process will be in place, and executed as appropriate, based on the identification of specific areas outside the current Sanctuary boundary that warrant further investigation.

- A. Review and analyze the Biogeographic Assessment to make an initial determination if there are particular areas that warrant immediate attention.
- B. Identify additional data sets not provided by the Biogeographic Assessment that may be needed for further analysis. In particular, identify smaller scale features and refined spatial scales that were either not available, or not analyzed on a fine enough scale by the Biogeographic Assessment.
- C. Conduct a literature search (contract) to identify additional data sets (also see research recommendations).

- D. Identify Sanctuary research needs (opportunistic and planned) to answer boundary questions. Data needs to be received by the Sanctuary in a format that is usable for answering boundary questions.
- E. Process data.
- F. Assemble a working group with broad-based stakeholder representation and scientific expertise.
- G. Develop a framework for quantitative analysis and evaluation of data by working group.
- H. Working group should strive to come to consensus on building a recommendation(s) on boundary options.
- I. Working group to forward recommendation to Sanctuary Advisory Council for their review and comments before forwarding it to the Sanctuary manager.

Action B-1.2: The following recommended criteria will be used by the working group to evaluate different boundary options:

A Boundary change (based on this option) would:

- A. Provide additional comprehensive and coordinated conservation and management of this area.
- B. Ensure the maintenance of the area's natural resource and ecological qualities, including its contribution to biological productivity, maintenance of ecosystem structure, maintenance of ecologically or commercially important threatened or endangered species or species assemblages, maintenance of critical habitat of endangered species, and the biogeographic representation of the site.
- C. Increase protection, and where appropriate, restore natural habitats, populations, and ecological processes.
- D. Enhance public awareness, understanding, appreciation, participation, stewardship, and sustainable use of the marine environment, and the natural, historical, cultural, and archeological resources of the marine area.
- E. Enhance coordination of scientific research and long-term monitoring of the resources of the marine area.



CROSS-CUTTING

Working Group

RECOMMENDATIONS

- I.
Community Outreach
- II.
Ecosystem Monitoring
- III.
Maritime Heritage



CROSS-CUTTING ISSUE:
COMMUNITY OUTREACH

Recommendation to the CBNMS Sanctuary Advisory Council
from the Cross-cutting Community Outreach Working Group

Goal Statement

A coordinated, collaborative regional community outreach strategy will build awareness throughout north-central California, and beyond, about: the existence and purpose of the three Sanctuaries and the national program; why their existence is relevant to people; the economic and intrinsic value of the three Sanctuaries to coastal and inland communities beyond such direct industries as fishing and ecotourism; how these three Sanctuaries are working with constituent groups; and how individuals and groups can be engaged in helping the Sanctuaries accomplish their resource protection, research, and education goals.

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Introduction

Under the National Marine Sanctuary Program (NMSP), each sanctuary in the system conducts education and outreach activities to build broad public awareness about the existence and purpose of our nation's marine sanctuaries. The NMSP recognizes that a well-informed local, regional, and national constituency greatly enhances the ability of the sanctuaries to protect their cultural and natural resources. Therefore, outreach activities should provide local and state governments, businesses, non-governmental

organizations, constituent groups, and the general public with the information necessary to be effective partners in the stewardship of sanctuary resources.

The current education/outreach programs at Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries are very different in terms of their involvement with the public and the staff resources to carry out those activities. Each site develops an annual plan, with varying emphasis on schools, constituent groups and/or specific resource issues, community events and fairs, publications, and volunteer efforts. Key messages include: the purpose of the National Marine Sanctuary Program; the benefits of having sanctuary status; regulations and programs associated with each sanctuary; and emergency response contacts. Each site also uses a mix of staff, volunteers, constituent groups, and friends groups to develop and implement these programs.

Problem Statement

Because of limited resources generally, each site has primarily focused on a select number of audiences within a limited geographic area. As a result, there are several areas where a broad-based public understanding needs to be enhanced. For example, there appears to be a lack of understanding and/or confusion about:

The unique situation of having three sanctuaries contiguously located in north-central California,
How these three sanctuaries together can work with other organizations to enhance regional outreach efforts regarding marine ecosystems,

How individuals and groups can engage effectively with the Sanctuary Program and best protect sanctuary resources, and

How businesses, constituent groups, agencies, elected officials and others can provide informed input into decisions regarding sanctuary management and further enhance community awareness of the Sanctuaries.

This plan identifies appropriate regional audiences and topics, regional outreach strategies, and marketing and media exposure efforts that effectively highlight specific program activities across all three sites as well as the national system. It is also designed complement each site-specific program and to be flexible enough to incorporate new strategies and topics over time.

Evolutionary Nature of This Plan

Over time, the messages included in the appendix of this plan may change; new issues may arise while others fall away. Each of the individual action plans in this management plan will also generate its own set of messages to be communicated to various audiences. Therefore, the strategies and activities serve as protocols, or methodologies, for how NMSP staff will develop and deliver those messages as well for how audiences and their needs will be identified.

The Stewardship Circle

The Stewardship Circle represents the continuous cycle of ocean and coastal outreach, education, and stewardship. The Circle expands awareness, knowledge, changed attitudes, and ultimately changed behaviors, rippling further and further throughout the community as more people become involved. By providing information on ocean and coastal resources, and stewardship opportunities, the Circle sparks the imagination and encourages people to have a personal, heart-felt relationship with the sea, regardless of their geographic location. The Circle is the basis of three strategies that may be tailored to the specific needs and interests of a given audience and may be delivered by members of that audience:

Outreach provides audiences with sanctuary-related information and materials that promote ocean and coastal stewardship, personal safety, and a healthy, sustainable economy.

Education provides a fundamental scientific understanding, knowledge, training, or professional development on topics relevant to the world's atmosphere, climate, oceans and coastal ecosystems, and resource protection.

Stewardship is a personal sense of responsibility to take informed action and make caring choices, at home or work, which promote and protect the health of our coasts and oceans.

Strategy XCO – 1: Ocean and Coastal Outreach

Strategy Description

Outreach provides audiences with sanctuary-related information and materials based on NOAA's science, products, and services that promote ocean and coastal stewardship, personal safety, and a healthy, sustainable economy. These audiences may be: north-central California coastal residents; people who live and work in inland California communities that regularly visit the ocean, such as divers, kayakers, tidepoolers, etc.; those who make their living within the ocean environment, like fishermen, maritime shipping companies, etc.; or people who live outside California that care about the ocean even though they may never visit. These, and others, are important voices in the protection and stewardship of the oceans.

Outcome

To raise general awareness of marine ecosystems, individual sanctuaries and the Sanctuary Program, and to inspire stewardship of ocean and coastal resources.

Potential story lines

- ☐ What are national marine sanctuaries? The north-central California area is one marine protected region, within three of the nation's 13 national marine sanctuaries.
- ☐ How do they relate to, support, and differ from other programs and marine organizations?
- ☐ What are their special characteristics and benefits?
- ☐ What is the biological, historic and cultural significance?
- ☐ What have we done successfully and what challenges still confront us in these Sanctuaries?
- ☐ Why should I care? How do I benefit from the Sanctuary?
- ☐ What can I do? How can I help or get involved? How can all users become involved in protecting and promoting the health of Sanctuary resources?

Activity 1.1: Develop or strengthen coordinated outreach programs and opportunities

Each site conducts outreach programs and activities based on the needs of the site. There are often times when all three sites could consolidate staff or financial resources to develop joint outreach efforts, such as public service announcements, issue-specific workshops and brochures (e.g., tide pool etiquette), docent programs, signage, learning centers, or exhibits and displays at community events. Additionally, the three sites can increase their "reach" on messages by partnering with their non-profit "friends groups". A coordinated outreach effort will:

- A. Compile and prioritize outreach needs from all three management plans, including site-specific and cross-cutting action plans
- B. Assess existing site programs for shared implementation or expansion based on priorities
- C. Provide information on existing volunteer opportunities, factoring in cultural differences (assess ways of reaching different cultures)
- D. Provide timely background/context regarding priority issues on website(s)
- E. Develop shared outreach materials/products/programs based on established priorities that inspire stewardship by supporting and acknowledging behaviors that protect ocean/coastal resources (e.g., "A Guide to Your National Marine Sanctuaries" field guide with wildlife viewing with information on all three Sanctuaries, broad public service announcements on why these three Sanctuaries are here?)
- F. Coordinate and collaborate on Sanctuary-sponsored signage, visitor center displays, etc.
- G. Explore non-traditional forms of outreach (e.g., "product recognition" in films that are shot at the Sanctuaries, hotel table-top cards or lobby kiosks)
- H. Share community outreach approaches, goals, etc., between the three sites, with interested SAC members, and between the sites and non-profit partners
- I. Conduct annual retreats/meetings as a coordinated group to evaluate effectiveness of previous outreach programs, identify new issues, programs and products (brochures, exhibits, signs, etc), opportunities, and joint implementation

Timeline:

- ☐ Assess other action plans and existing programs: Begin in Summer 2003
- ☐ Evaluate ability of existing programs for delivering messages: Winter 2003/2004
- ☐ Product development: Initiate in Winter 2003/2004 based on assessment of action plans and existing programs; on-going thereafter
- ☐ Annual retreat: Each spring (in preparation for annual operating plans)
- ☐ Develop new collaborative approaches: On-going

Potential Partners: SAC members from all three Sanctuaries/working groups, Farallones Marine Sanctuary Association, Monterey Bay Sanctuary Foundation, National Marine Sanctuary Foundation, Channel Islands National Marine Sanctuary, Channel Islands Sanctuary Foundation/Association, NOAA Enforcement

Possible Measurement Elements:

- ☐ Identify the “target” audience(s) for measurement results – NOAA management, state and local elected officials, Congress, etc.
- ☐ Use the NOS “tracking” website to provide information on website usage
- ☐ Changes in number of: volunteers, foundation memberships, website “hits”
- ☐ Survey key contacts for “opinion poll” regarding Sanctuaries’ relationship with communities
- ☐ Partner with the American Marketing Association and marketing graduate schools to conduct a “market” survey (this could also be used as a volunteer opportunity)

Activity 1.2: Develop and Implement a Joint Media (print, radio, TV, internet, etc.)

The media can be an effective means of delivering information if staff is trained in how to provide that information to them. Each medium has a preferred way of receiving information for stories, so the appropriate mechanism and amount of information must be provided. This can be aided by periodic briefings with individual reporters with whom a relationship has been established, meeting with “editorial boards” of reporters and editorial staff at larger newspapers, and by keeping website background and context material current and relevant. The joint media plan will address how the sites will:

- A. Designate a media/public affairs point of contact for each site
- B. Consult with each other to identify and develop goals and key messages for joint media efforts based on the three management plans
- C. Collaboratively establish relationships with key local reporters whose territories overlap more than one Sanctuary
- D. Conduct periodic joint briefings for reporters/editors on cross-cutting issues
- E. Provide specific information on the three sanctuaries for the context of specific issues
- F. Assess the effectiveness of joint and site-specific media coverage in presenting information

Timeline:

- ☐ Designate media/public affairs contacts at each site: Spring 2003
- ☐ Media training for staff: Spring/Summer 2003 and annually thereafter
- ☐ Develop and implement joint media plan: Within 6 months of the first training and semi-annually thereafter

Potential Partners: Traditional and electronic media, both coastal and inland, including local weekly papers, Community access TV stations

Activity 1.3: Identify and Partner with External Programs to Incorporate Message

There are many existing outreach programs targeting various groups that may value, influence, or impact the resources of the three sites. Public agencies like water pollution control and solid waste agencies, local parks and recreation departments, as well as local Chambers of Commerce and others often have limited funding and staff available to carry out these efforts.

User groups whose members are widely dispersed may also be effective partners

Trade associations for shipping and commercial/recreational fishing, dive clubs, boating groups etc., may have magazines, newsletters, websites where Sanctuary-related messages can be delivered. Local school districts and area colleges offer marine sciences curricula or may have community service requirements.

Through partnerships, this broad network can be accessed to incorporate sanctuary-related messages into other outreach programs. In return, the Sanctuaries may be able to provide “seed” funding, make available images and other graphics, and integrate appropriate coastal messages from other organizations.

- A. Identify and prioritize messages and audiences (e.g. groups that impact Sanctuary resources), based on the three management plans, that may be appropriate for delivery by partners; previous communications plans may be helpful (i.e., Year of the Oceans)
- B. Determine Potential Partners with existing outreach programs and create a database of contacts and the type(s) of outreach tools and messages they have
- C. Identify non-traditional outreach efforts (faith-based groups, service groups, chambers of commerce, etc.) and explore partnership opportunities
- D. Prioritize Potential Partners, aligning similar groups, based on their “reach” and the context of messages
- E. Create joint outreach tools that deliver integrated messages with partners, including museum exhibits, visitor center displays, maps in visitor guides, roving docent programs
- F. Develop issue-specific outreach to groups already involved with Sanctuary issues (such as user groups, non-governmental organizations, etc), coordinate on new opportunities to integrate and facilitate outreach in their programs, and maintain ongoing relationships
- G. Identify and share information on appropriate funding opportunities for the three Sanctuaries, our non-profit partners/friends groups and for other partners in outreach from: other federal/state/local agencies (EPA, NPS, state and local resource agencies, etc); private industry and foundations; and venture capitalists that fund environmental philanthropy

Timeline:

- ☐ Create database of outreach partners and programs: Summer 2003
- ☐ Identify audiences and messages: On-going
- ☐ Develop joint outreach tools: On-going

Potential Partners: USGC, NPS, other federal agencies, California State Parks, other state agencies Cities, local parks/recreation departments, Local agencies with pollution prevention programs (Water pollution control, solid waste control), Chambers of commerce, Trade associations for shipping, fishing, tourism, etc. Dive clubs/shops, kayak clubs/shops, spot abalone divers, other recreational groups, Natural history museums, Institutions with community service requirements/marine sciences (high schools, colleges)

Activity 1.4: Create and Implement an Interactive “Electronic Clearinghouse”

This clearinghouse could be integrated into the existing websites for the three Sanctuaries, or be a shared site similar to the “joint plan” website, and would include different levels of information (e.g. current issues, success stories, stewardship guides, list of personal actions, scientific/policy reports, etc.). It would be marketed to a wide range of individuals, groups, entities with a medium and a proven ability to affect opinion (e.g. media, educational & research institutions, advisory councils, volunteers, advocacy organizations, faith-based groups, governmental organizations, etc). The key underlying message would be that the protection and long-term health of our ocean sanctuaries depends on how we conduct our everyday activities.

- A. Assess information needs by working with community leaders and decision makers to create framework and content
- B. Identify and develop clearinghouse web concept and plan, including whether a shared website or existing websites will be used
- C. Identify and pursue funding (staff, design, maintenance, etc)
- D. Identify appropriate related sites and create links
- E. Develop and implement a promotional strategy

Timeline:

Assess existing websites vs. shared website for suitability: Begin in year one, Develop clearinghouse plan: Begin in year two

Potential Partners:

NMSP Communications Branch, California Coastal Commission, Those partners identified throughout this action plan

Strategy XCO-2: Ocean/Coastal Education

Strategy Description

Our joint ocean and coastal education efforts provide a fundamental scientific understanding, knowledge, training, or professional development to a particular audience on topics relevant to the world's atmosphere, climate, oceans and coastal ecosystems, and resource protection. There are many possible audiences, such as students, teachers, state and local agencies, community leaders, and the general public. Sanctuary-related educational activities are based on NOAA science; systematic in design with clear goals, objectives and measurable outcomes; aligned, where appropriate, with state or national education standards; and designed to facilitate evaluation by a third party.

Outcome

To build knowledge and support caring actions and attitudes regarding marine ecosystems and the Sanctuaries.

Activity 2.1: Collaborate on Existing Site-specific Education Programs and Products

Currently, GFNMS/FMSA and MBNMS/MBSF have a wide variety of site-specific education programs being implemented; CBNMS is exploring how best to establish its education program and already coordinates with GFNMS/FMSA on some outreach. There are many opportunities to share development, implementation, and marketing of these as well as expanding certain programs and materials to reflect all three Sanctuaries. The upcoming action plans from other working groups may also identify education efforts that could be shared or expanded, and opportunities regularly arise that can be discussed for how they can be coordinated, co-developed, and promoted across the sites.

- A. Compile and prioritize education needs from all three management plans, including site-specific and cross-cutting action plans
- B. Assess existing site programs for shared implementation or expansion based on priorities
- C. Conduct annual planning discussions/retreats to select priority education efforts to jointly pursue and evaluate previous efforts, along with quarterly “check-ins” to explore emerging opportunities
- D. Create an online database for the three contiguous sanctuaries to access teacher mailing/email information to advertise for upcoming educational opportunities
- E. Select a region-wide lecture series theme each year, from management plan priorities, upon which each site's program can be based, market jointly, co-sponsor as appropriate
- F. Explore the expansion of symposia beyond research presenters and audience to include teachers/students and student presenters; coordinate selection of topics based on management plan priorities

- G. Create a “branded” look, using NMSP templates, and “boiler-plate” language for brochures to educate users (divers including abalone divers, kayakers, boaters, wildlife watching, etc) so that the look is similar across all three sites, with appropriate differences added
- H. Identify, develop and conduct coordinated trainings among NMSP and partner volunteer programs
- I. Provide volunteer exchange opportunities
- J. Identify and promote internships with marine-related businesses (i.e., resource assessment firms, whale watching and related businesses)

Timeline:

Assess other action plans and existing programs: Begin in Summer 2003

Product “branding”: Initiate in Winter 2003/2004 based on assessment of action plans and existing programs; on-going thereafter

Annual retreat: Each spring (in preparation for annual operating plans)

Lecture series: Beginning of each fiscal year starting in year one, select series theme

Symposia: MBNMS/AMBAG Symposium is held each March; GFNMS/CBNMS Symposium bi-annually

Team OCEAN: By the end of year three, evaluate which programs are appropriate for inclusion in this framework.

Potential Partners: West Coast Education Liaison, State/local volunteer programs, Bay Area Sea Kayakers (BASK), High school/college classes doing coastal monitoring, National Science Foundation, other federal agencies (esp. for funding), Local NGO's/non-profits, Association of Monterey Bay Area Governments, Association of (SF) Bay Area Governments

Activity 2.2: Increase Multicultural/Multi-lingual Efforts

The MERITO Program at MBNMS is experiencing significant success within the Hispanic community. Starting with one school, it is now expanding to include adults and to train teachers to replicate the curriculum in their own classrooms and soon may be self-sustaining. The Channel Islands National Marine Sanctuary (CINMS) is currently working with MBNMS to evaluate the possible expansion of MERITO to the south. There is a large Hispanic community throughout the entire area of the three Sanctuaries, so expansion of MERITO to GFNMS and CBNMS will be explored. Needs assessments to determine other multi-cultural, socio-economic, or multi-lingual communities (Vietnamese, Chinese, Portuguese, Italian, etc.) and their interests will be beneficial in designing new education efforts.

Timeline: Needs Assessments: Conduct during first three years to determine appropriate communities to partner with, what topics to address, and develop implementation plans accordingly

Potential Partners: Multi-cultural community leaders, Bilingual school programs, Local NGO's/non-profits

Activity 2.3: Identify New Education Programs

In addition to expanding current programs, new educational opportunities exist for collaboration and cooperation. As noted above, the upcoming action plans from other working groups may identify new education efforts that could be developed jointly, and area-wide programs may tie into national ones.

- A. Identify and prioritize education needs and audiences (e.g. groups that impact Sanctuary resources), based on the three management plans, that may be appropriate for collaboration and shared implementation
- B. Explore the possibility of jointly implementing such efforts as:
 - Teacher workshops: The 2003 LiMPETS West Coast Workshop for teachers is a good model upon which to pattern future workshops designed for high school and college level science teachers. Possible topics may include the annual remote operating vehicle (ROV) competition (partnering with MATE and the national competition) and how to incorporate it into the classroom; a regional approach to the Teacher-at-Sea program, providing a link with local research cruises; or preparing teachers (and their students) to participate and present in symposia.

- Partnering on Teacher Workshops: Many marine organizations also provide teacher trainings: Moss Landing Marine Lab, MATE, MBARI, etc. It may be appropriate for the Sanctuaries to develop partnerships with these groups to organize, promote, or expand existing efforts.
- Volunteer Naturalist Corps program, similar to CINMS (Channel Islands), that could educate volunteers to interpret the Sanctuaries at various venues; community events, school fairs/oceans weeks, on the water (may need to conduct a feasibility study especially for this), etc., as part of Team OCEAN
- Certification Training program for professional naturalists, similar to SBNMS (Stellwagen Bank). This program would provide different levels of certification to paid naturalist staff working on private whale watching boats, recreational fishing boats, etc., based on levels of training and years of experience. Specific training on Sanctuary-related issues could be provided as well, perhaps using highly experienced researchers and naturalists as instructors. This would be an effective marketing tool for businesses to attract customers, supporting the Sanctuaries while promoting a sustainable economy.
- Natural history guides on the birds, mega-fauna of the Sanctuaries may evolve from these and other programs

Timeline:

- Teacher Workshops (expanding the success of the LiMPETS Teachers' Workshop): Summer 2004, conduct needs assessment with teachers to identify regional and/or West Coast workshop topic for FY 2005. If appropriate, within 6 months, develop and implement workshop. Evaluate effectiveness and scheduling interval for future joint workshops.
- Volunteer Naturalist Corps: During year two, explore options as well as feasibility across the three sites for implementing such a program. During year three, select preferred option and implement.
- Certification Program: By the end of year four, evaluate the feasibility and options for such a program. During year five, develop and implement if appropriate.

Potential Partners: Other National Marine Sanctuaries (esp. Channel Islands, Olympic Coast and Stellwagen Bank), Elkhorn Slough National Estuarine Research Reserve, State/local volunteer naturalist programs MATE, MBARI, Moss Landing Marine Lab, Universities, and Sea Grant institutions, Eco-tourism businesses such as dive and kayak shops, whale-watching companies, Local non-governmental organizations/non-profits

Strategy XCO-3: Ocean/Coastal Stewardship

Strategy Description

Marine sanctuary stewardship is a personal sense of responsibility to take informed action and make caring choices, at home or work, which promote and protect the health of our coasts and oceans. A steward develops attitudes, motivations, and commitments that are reflected in informed decisions and responsible actions. Stewards can be individuals, members of groups, or entities that influence others' opinions and actions about the oceans. Stewardship can be demonstrated through a variety of means, including:

- Volunteer for an organized stewardship program,
- Take personal action to protect our ocean sanctuaries,
- Provide informed public input into decisions regarding the Sanctuaries, and
- Inform others regarding marine ecosystems and the Sanctuary Program.

Similar to the audiences for outreach, ocean and coastal stewards may be: north-central California coastal residents; people who live and work in inland California communities that regularly visit the ocean; those who make their living within the ocean environment; or people who care about the ocean even though they may never visit.

Outcome

To facilitate active stewardship of our sanctuaries by individual citizens.

Activity 3.1: Create, Maintain and Promote Volunteer Programs

Formal volunteer programs provide opportunities for stewardship as well as expanding resource protection, education, and outreach capabilities of the Sanctuaries. These programs may be directly affiliated with a site, such as Beach Watch, Beach COMBERS, SEALS, and Team OCEAN Kayakers. They may be under the auspices of a non-profit partner, state/local agency, etc., like Save Our Shores, Bay Net, Friends of the Elephant Seals, Fitzgerald Marine Reserve, and California State Parks.

- A. Identify and prioritize opportunities for volunteer programs based on the three management plans, that may be appropriate for collaboration and shared implementation
- B. Using LiMPETS as a model, explore integrating NMSP-sponsored volunteer programs into a region-wide Team OCEAN program to share training, protocols, data management (e.g., through SIMoN), funding, promotion, etc. Links could also be made to programs managed by other organizations.
- C. Identify/provide funding to support and expand partner-run volunteer programs and training efforts throughout the north-central California coast
- D. Identify, develop and conduct coordinated trainings among NMSP and partner volunteer programs; include marine labs as instructors
- E. Provide volunteer exchange opportunities
- F. Use the media, both coastal and inland markets, to acknowledge volunteer efforts and promote involvement

Timeline: Begin in year two

Potential Partners: NOAA's Team OCEAN, Elkhorn Slough National Estuarine Research Reserve, Farallones Marine Sanctuary Association, Monterey Bay Sanctuary Foundation, Bay Net, Save Our Shores, other non-governmental organizations, California State Parks, other state/local resource agencies, Friends of Fitzgerald Marine Reserve, High school service learning programs

Activity 3.2: Create Alternative Ways to Inspire Coastal and Ocean Stewardship

Many people have a personal connection with the ocean and coastal environment who may not be interested, or able, to participate in formal volunteer efforts. Cultural or language differences may also affect people's perception of stewardship. For example, Native American populations, among others,

have a spiritual connection with the ocean that respects the ocean's life and health. The three Sanctuaries will work together to identify and implement alternative forms of stewardship.

- A. Inventory existing non-traditional stewardship activities and partners at these three sites and at sanctuaries throughout the NMSP
- B. Develop a pilot program, or stewardship campaign, based on inventory and management plan priorities
- C. Publicize non-traditional forms of stewardship as well as "volunteer of the year"

Timeline: Begin in year two

Potential Partners: Faith-based groups, Multi-cultural groups, Bilingual school programs, After-school programs, Art, dance and music programs, Service organizations

Activity 3.3: Identify and Partner with External Programs to Incorporate Message

There are many groups that may value, influence, or impact the resources of the three sites. User groups whose members are widely dispersed may also be effective partners: Trade associations for shipping and commercial/recreational fishing, dive clubs, boating groups etc., may have magazines, newsletters, websites where Sanctuary-related stewardship information can be delivered.

- A. Identify and prioritize messages and audiences (e.g. groups that impact Sanctuary resources), based on the three management plans, that may be appropriate for delivery by partners; previous communications plans may be helpful (i.e., Year of the Oceans)
- B. Determine Potential Partners and create a database of contacts
- C. Prioritize Potential Partners, aligning similar groups, based on their "reach" and the content of messages
- D. Develop issue-specific stewardship information to groups already involved with Sanctuary issues (such as user groups, non-governmental organizations, etc), coordinate on new opportunities, and maintain ongoing relationships
- E. Identify other stewardship groups (faith-based groups, service groups, chambers of commerce, etc.) and explore partnerships for ocean and coastal stewardship
- F. Identify and share information on appropriate funding opportunities for the three Sanctuaries, our non-profit partners/friends groups and for other partners from: other federal/state/local agencies (EPA, NPS, state and local resource agencies, etc); private industry and foundations; and venture capitalists that fund environmental philanthropy

Timeline: Create database of outreach partners and programs: Summer 2003, Identify audiences and messages: On-going, Develop joint outreach tools: On-going

Potential Partners: USGC, NPS, other federal agencies, California State Parks, other state agencies, Cities, local parks/recreation departments, and local agencies mandated to have pollution prevention programs (Water pollution control, solid waste control), County Sheriffs' departments, city police, Chambers of commerce, Trade associations for shipping, fishing, tourism, etc., Dive clubs, kayak clubs, other recreational groups, Natural history museums, Institutions that have community service requirements (high schools, colleges), Service organizations

APPENDIX - Messages for the Stewardship Circle

The following are core messages about the NMSP that should form the backbone of all communication and outreach efforts:

Message: NOAA Manages a System of 13 National Marine Sanctuaries

- Sanctuaries are unique ocean and Great Lakes areas that have special ecological, cultural, scientific, esthetic, historical, or recreational qualities.
- Sanctuaries are specifically designed to maintain for future generations the animals, plants, cultural artifacts, and environmental quality of these underwater treasures.
- NOAA's National Marine Sanctuary Program is empowered by Congress through the National Marine Sanctuaries Act to serve as trustees for America's Ocean Treasures
- The National Marine Sanctuary Program seeks to facilitate all uses of sanctuary resources that are compatible with the primary objective of resource protection.
- The National Marine Sanctuaries Act calls for the establishment of areas of the marine environment which have special conservation, recreational, ecological, historical, cultural, archeological, scientific, educational, or aesthetic qualities.

Message: The National Marine Sanctuary Program Conducts Science and Education Activities and Works with the Public to Manage and Protect these Ocean Treasures

- Public participation, combined with the best science available, is important for effective sanctuary management.
- Sanctuaries are living classrooms where people can see, touch, and learn about the nation's ocean and Great Lakes environments.
- Science helps determine how different human and natural factors affect the health of marine ecosystems.
- Long-term monitoring programs help managers identify and respond to changes in marine ecosystems.
- Our economy and our enjoyment of the oceans' beauty depends on all of us learning more about the marine world than we know today.

Message: The National Marine Sanctuary Program Promotes Long-term Conservation While Allowing for Compatible Commercial and Recreational Activities

- The National Marine Sanctuary Program promotes the long-term conservation of America's natural heritage.
- The National Marine Sanctuary Program seeks to protect ecosystems and marine life. This helps to allow sustainable use of these resources over the long-term.
- Sanctuaries are places the public can participate in a wide variety of recreational and commercial activities, including swimming, wildlife watching, diving, boating, and fishing as long as the activities are compatible with resource protection.

Message: Sanctuaries Help Preserve Our Nation's Natural and Cultural Treasures for Future Generations
Sanctuaries belong to all of us, their future is in our hands.

- We all own something precious, sanctuaries are part of our national heritage.
- Sanctuaries attempts to ensure that special places are left as undisturbed by human impacts as possible so that future generations can enjoy the environment in the same natural state we can today.
- Sanctuaries help to protect habitats that provide food, shelter, and nursery areas for over 1,500 fish species, marine mammals, birds, and other unique marine life.
- The National Marine Sanctuary Program enhances our understanding of our maritime heritage by partnering with native cultures and protecting historic shipwrecks and prehistoric sites.
- Studying and preserving shipwrecks helps us understand the history of our nation and of other cultures.

Message: Sanctuaries are an Investment in our Future

- The National Marine Sanctuary Program works with local communities to protect marine ecosystems that support their livelihoods

- Sanctuaries help contribute to healthy coastal economies.
- Our Nation's economic security depends on wise stewardship of our marine resources.
- The National Marine Sanctuary Program seeks to balance the needs of today while ensuring healthy resources are available to support coastal communities in the future.
- Coastal tourism generated over \$1.4 trillion in economic activity in 2001, making it one of the largest industries in the United States.
- Approximately 89 million Americans vacation and recreate along the U.S. coast annually
- Coastal economies depend on healthy marine ecosystems

Frequently Asked Questions

What is a national marine sanctuary?

Our national marine sanctuaries embrace part of our collective riches as a nation. Within their protected waters, giant humpback whales breed and calve their young, temperate reefs flourish, and shipwrecks tell stories of our maritime history. Sanctuary habitats include beautiful rocky reefs, lush kelp forests, whale migrations corridors, spectacular deep-sea canyons, and underwater archaeological sites. Our nation's sanctuaries can provide a safe habitat for species close to extinction or protect historically significant shipwrecks. Ranging in size from less than one square mile to over 5,300 square miles, each sanctuary is a unique place needing special protections. Natural classrooms, cherished recreational spots, and valuable commercial industries—marine sanctuaries represent many things to many people.

What is the National Marine Sanctuary System?

A 13-site system of thirteen underwater protected areas, encompassing over 18,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. Sanctuaries were established for their national ecological, cultural, and/or recreational significance.

What is the National Marine Sanctuary Program?

The National Marine Sanctuary Program serves as the trustee for a system of thirteen underwater protected areas, encompassing 18,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys, and from Lake Huron to American Samoa. The National Oceanic and Atmospheric Administration's (NOAA) Ocean Service has managed national marine sanctuaries since passage of the National Marine Sanctuaries Act in 1972. Protecting sanctuary resources requires a great deal of planning, management, and cooperation between federal, state, and local officials, and the public. The National Marine Sanctuary Program works cooperatively with its partners and the public to balance enjoyment and use with long-term conservation. Increasing public awareness of our marine heritage, scientific research, monitoring, exploration, educational programs, and outreach are just a few of the ways the National Marine Sanctuary Program fulfills its mission to the American people. The Program's staff is ever mindful of their responsibility to protect America's ocean treasures for this and future generations.

How does a sanctuary get established?

Under the 1972 Marine Protection, Research and Sanctuaries Act, the Secretary of the Department of Commerce is authorized to designate discrete areas of the marine environment as national marine sanctuaries to promote comprehensive management of their special conservation, recreational, ecological, historical, research, educational, or aesthetic resources. The U.S. Congress can also designate national marine sanctuaries.

How did these three sanctuaries get established (these three sanctuaries protect x number of endangered species, cultural resources-diversity of habitats, wildlife etc.)?

Cordell Bank NMS, designated in 1989, encompasses 526 square miles of open ocean off Point Reyes. Cordell Bank is a submerged island that reaches within 120 feet of the ocean surface. The upwelling of nutrient rich ocean waters and the bank's topography create one of the most biologically productive areas in North America – a lush feeding ground for fish, marine mammals, and seabirds. Its depth, currents, and distance from the mainland have kept this remote and productive part of the California sea floor a mystery to most of the public.

Gulf of the Farallones NMS is located adjacent to 138 miles of the California coast west of the San Francisco Bay area. It was designated in 1981 and encompasses 1,255 square miles. The Gulf of the Farallones is rich in marine resources, including spawning grounds and nursery areas for commercially valuable species, at least 36 species of marine mammals, and 15 species of breeding seabirds. One-fifth of California's harbor seals breed within the Sanctuary, and the Farallon Islands are home to the largest concentration of breeding seabirds in the contiguous United States. The Sanctuary also includes the coastline up to the mean high tide, protecting a number of accessible lagoons, estuaries, bays, and beaches.

Monterey Bay NMS stretches along 276 miles of the central California coast and encompasses 5,328 square miles of coastal and ocean waters. It was designated in 1992 and contains many diverse biological communities, including sandy bottom and rocky outcrop habitats, the nation's largest expanse of kelp forests, one of the deepest underwater canyons in North America, and a vast open ocean habitat. Nutrients from two upwelling centers fuel an abundance of life, from tiny plankton to huge blue whales. This diversity of habitats and marine life has made the Sanctuary a national focus for marine research and educational programs.

Why is it important to have a sanctuary? Why are sanctuaries important to coastal communities?

The primary role of a sanctuary is to protect its ecosystem's natural and cultural features while allowing people to use and enjoy the ocean in a sustainable way. Sanctuary waters provide a secure habitat for species close to extinction and protect historically significant shipwrecks and artifacts. Sanctuaries serve as natural classrooms and laboratories for schoolchildren and researchers alike to promote understanding and stewardship of our oceans. They often are cherished recreational spots for sport fishing and diving and support commercial industries such as tourism, fishing and kelp harvesting.

What is an ecosystem?

An ecosystem is the community of animals and plants and the environment with which it is interrelated. Within a sanctuary, the ecosystem includes all the living organisms, the ocean and its currents, the sea floor and shoreline, and the air and wind above. It may also include the freshwater watersheds that flow into the Sanctuary and that are the spawning grounds for salmon and other fish species.

What are marine resources and why must they be protected? (Living and cultural)

The term "marine resources" broadly defines the living marine resources (plants and animals), the water and currents, and the ocean floor and shoreline with a sanctuary. It also includes the historical and cultural resources within a sanctuary, from shipwrecks and lighthouses to archaeological sites and the cultural history of native communities. Sanctuaries are established to protect areas that encompass unique or significant natural and cultural features.

How does a sanctuary protect marine life?

Sanctuary managers rely on a variety of mechanisms to understand and protect the sanctuary's living and historical resources. The National Marine Sanctuaries Act, along with site-specific legislation and regulations, provides the legal framework outlining the activities that are allowed or prohibited. The sanctuaries implement a permit system to regulate and oversee potentially harmful activities in sanctuaries. This may be enhanced by the adoption of state and other federal laws and regulations. Another important tool is "interpretive enforcement", emphasizing education about responsible behavior as a proactive method to prevent harmful resource impacts from occurring in the first place.

Don't other federal/state/local agencies already do this?

Local, state and federal agencies may have overlapping regulations or other management authorities aimed at protecting specific marine resources. However, no other federal agency is directly mandated to comprehensively conserve and manage special areas of the marine environment like the National Marine Sanctuary Program. Each agency may focus on different aspects or different resources, but generally their goals are consistent with protection and sustainable development of these marine areas. Coordination and cooperation among the responsible government agencies are key to successful sanctuary management.



CROSS-CUTTING ISSUE: **ECOSYSTEM MONITORING**

Recommendation to the CBNMS Sanctuary Advisory Council
from the Cross-cutting Ecosystem Monitoring Working Group

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Goals of Ecosystem Monitoring

The ecosystem monitoring for the California joint sanctuary management plan review is defined as activities to 1) determine the current and anticipate the future status of sanctuary resources; 2) understand the limits of variation in resources; 3) detect temporal and spatial changes in resources; and 4) identify potential agents of change. Undertaking ecosystem monitoring requires long-term comprehensive assessments and broad scale integration of data collected in a wide variety of habitats (e.g., coastal interface, subtidal, continental shelf, shelf break, and deep water) and in areas that directly influence them (e.g., watershed, estuaries, coastal currents). Such assessments and integration can only be achieved through coordination with multiple partners focused on a variety of resources and geographic scales. Because the three sanctuaries of Cordell Bank, Gulf of the Farallones, and Monterey Bay have contiguous boundaries, they protect and manage many of the same habitats types and living resources, some of which range throughout the combined area. As such, the sanctuaries should consider each other primary partners in monitoring efforts to evaluate the status and trends of these shared resources. Coordination among the three sanctuaries to promote, conduct, integrate, and synthesize data from ecosystem monitoring activities is the most effective and efficient means to improve availability of information for resource conservation and management across the region.

Introduction

The legislation establishing the National Marine Sanctuary System requires that long-term monitoring of sanctuary resources be supported, promoted, and coordinated (16 U.S.C. 1431). Sanctuaries also promote data collection to assess resource or environmental change with

respect to implemented management actions. The suite of monitoring information required by sanctuary management includes data from within the sanctuary and from areas outside the boundaries that influence sanctuary waters.

For the most part, individual sanctuaries work independently to develop monitoring programs and partnerships to inform their management concerns. These programs typically rely on substantial support from other government, private, and academic institutions at the federal, state, and local levels. The program designs are often only indirectly influenced by sanctuary management responsibilities.

The three California sanctuaries of Cordell Bank, Gulf of the Farallones, and Monterey Bay are unique in the sanctuary system because they share contiguous boundaries. Each sanctuary was designated as a distinct management entity, but the established boundaries between the three are political constructs that do not coincide necessarily with ecological transitions. As such, the three sanctuaries share many common resources, ecosystems, and management concerns. Through the joint management plan process, the three sanctuaries have the opportunity to form an integral partnership to improve monitoring of shared and similar interests. Coordination of monitoring activities across the three sanctuaries allows for integrated monitoring at scales that are more appropriate ecologically. Such coordinated programs will be beneficial to assess shared ecosystems, large-scale processes, and migratory species, where data from a single sanctuary could be spatially insufficient and potentially misleading.

The combined areas of Cordell Bank, Gulf of the Farallones, and Monterey Bay NMSs also represent a substantial portion of California coastal waters. Regional sanctuary monitoring coordination across this extensive area will help promote sanctuary management concerns as a driver for large-scale monitoring initiatives and partnerships. The data collected from coordinated efforts will be useful at the local and regional scale, with the potential for influencing resource management actions throughout a substantial portion of the West Coast.

Addressing the Issue

Most of the monitoring data that informs sanctuary management are not financed, collected, or analyzed by the sanctuaries. Instead, sanctuaries support and promote these activities indirectly by issuing required sanctuary permits; providing vessel time, staff support, and equipment; and coordinating the interests and information of outside agencies and partners. They also assist to secure outside funding that can be directed toward projects that address sanctuary information needs (e.g., SIMoN).

Such indirect support is appropriate to the mandate and capacities of the sanctuary program. Sanctuaries do not have the expertise or the personnel resources to collect and analyze the variety of information required for their management needs. Such expertise is accessible through partnerships with various research institutions. However, effective resource management requires a holistic view, which sanctuaries are uniquely positioned to achieve. To inform their resource management mandate, sanctuaries must synthesize and integrate information from disparate research and monitoring projects. They have the further responsibility of interpreting and applying available scientific knowledge for resource managers and the public. Thus, coordination of ecosystem monitoring efforts requires strategic action on various sanctuary-specific programmatic levels.

Recommended strategies focus on coordinating existing activities, identifying opportunities for additional coordination, and establishing the administrative infrastructure, advisory panels, and oversight mechanisms required to support, direct, and evaluate coordinated monitoring across the three sanctuaries. Because many of the monitoring requirements common to the three sanctuaries undergoing the joint management plan review overlap with the interests of Channel Islands and Olympic Coast National Marine Sanctuaries, the strategies recommended in this proposed action plan should serve as a model for expanded coordination of appropriate monitoring activities across all five of the West Coast sanctuaries. The strategies are also consistent with efforts of the System Wide Monitoring program (SWiM) to improve collection, evaluation, and interpretation of monitoring information throughout the system of sanctuaries. Thus, these activities promote system and regional integration across the

program as well as improving ecosystem conservation and management in the combined area of the three sanctuaries. The order of presentation for these recommendations generally reflects a chronological sequence, which establishes a logical priority of activities.

Coordinate targeted existing monitoring activities.
Establish a joint internal monitoring coordination team.
Identify shared monitoring needs.
Establish a joint research activities panel.
Establish an external review panel.
Develop a regional West Coast technical assistance center.

It should be noted that the tasks outlined in this action plan represent a considerable amount of additional effort for the sanctuaries concerned. Staffing at the three sanctuaries currently varies considerably. With the inclusion of SIMoN personnel, Monterey Bay has seven individuals supporting research and monitoring activities. The other two sanctuaries do not have separate research coordinators; the research coordinator at Gulf of the Farallones also acts in that capacity for Cordell Bank, which has only one part-time research staff focused on its resources. Since cross-cutting activities build on the activities and capacities of the individual sanctuaries, success of this cross-cutting plan is contingent on additional staffing. Some increased staffing may be warranted to fulfill sanctuary-specific research and monitoring needs; however, those additions are most appropriately addressed in the site-specific research and monitoring action plans. The increased staffing recommended in the strategies of this action plan represent personnel needs and technical expertise required to fulfill the goal of coordinated ecosystem monitoring.

STRATEGY XC-EM 1—Coordinate Targeted Existing Monitoring Activities

Overview

Priority activities for initiation of ecosystem monitoring within the region should be centered on coordination of existing sanctuary specific monitoring programs that assess similar ecosystems in at least two of the three sanctuaries. Recommendations center on coordination of targeted programs that monitor condition in the coastal interface and pelagic/offshore. Surveys of beach cast marine mammals and seabirds monitor offshore mortality events and are, thus, included in pelagic/offshore activities.

These priorities are not based on an inventory of common monitoring programs, but represent quick successes that were identified by the group as key opportunities to promote coordinated efforts. The coordination channels and activities established to support these targeted efforts will serve as a model for additional monitoring coordination. Other existing or newly emerging monitoring activities, not identified in this action plan, represent potential opportunities for additional coordination. Assessment of such opportunities is addressed in Strategy XC-EM 2.1 and XC-EM 3.

XC-EM 1. Coordinate activities among the sanctuaries to promote efficiency and effectiveness of targeted existing monitoring activities.

1.1. Coordinate coastal interface monitoring activities.

1.1.1. Investigate opportunities and initiate coordination of joint sanctuary rocky intertidal monitoring programs with other large-scale rocky intertidal monitoring efforts.

- Initiation: Year 1
- Duration: Ongoing
- Products: Plan for coordinated rocky intertidal monitoring
- Partners: PISCO, MARINE, NPS, SCCWRP, BML, Tenera Inc., MMS, Kinetic Labs

1.1.2. Develop regional sanctuary education/outreach monitoring event(s) to promote the importance of monitoring, disseminate monitoring data, and improve understanding of marine conservation and management. Events should focus on collection and use of data from volunteer monitoring efforts in sandy beach, rocky intertidal, and estuarine systems.

- Initiation: Year 1

- Duration: Ongoing
- Products: Outreach and education materials/curricula to promote awareness of monitoring activities and disseminate monitoring data; Sanctuary monitoring activities and lesson plans for collected data during annual monitoring events (e.g., Snapshot Water Quality Monitoring Event); site selection and implementation of LiMPETS; Quality assessment/quality control procedures and data collection standards
- Partners: Community Outreach Working Group, SNAPSHOT, LiMPETS, Beach Watch, Beach COMBERS, FMSA, GLOBE, Jason Foundation for Education.

1.2. Coordinate pelagic/offshore monitoring activities.

1.2.1. Conduct a coordination workshop for Beach COMBERS and Beach Watch.

- Initiation: Year 1
- Duration: Ongoing
- Products: Coordination plan for joint reporting; volunteer training, coordination, and enrichment opportunities; and data collection, management and metadata standards; plan for completion of the NOS/Special Projects Office project; coordinated revision and reprinting of the field guide; plan for shared study skin collection.
- Partners: SIMoN, NMSP, COASST

1.2.2. Conduct a workshop to develop a coordinated plan for sanctuary marine mammal and seabird survey activities to supplement the National Marine Fisheries Service 5-year surveys (per recommendations developed during the Marine Mammal/Seabird Workshop in December 2002).

- Initiation: Year 1
- Duration: Ongoing
- Products: Plan for ongoing 5-year sanctuary marine mammal/seabird monitoring surveys to coordinate with and supplement NMFS 5-year surveys; joint shiptime requests or contracts to ensure consistent availability of appropriate survey platforms.
- Partners: NMFS, CINMS, OCNMS, CIMT, NPS, PRBO, SIMoN

1.2.3. Workshop to develop a plan for expanding appropriate methodologies for monthly and annual marine mammal, seabird, and trophic structure surveys across all three sanctuaries.

- Initiation: Year 1
- Duration: Ongoing
- Products: Coordinated plan for monthly and annual surveys; assessment of platform requirements/availability
- Partners: CIMT, PRBO, NMFS, CINMS, OCNMS, NPS, NCCOS (circulation pattern assessments), SIMoN

1.2.4. Facilitate expansion of CalCOFI transect lines through Gulf of the Farallones and Cordell Bank., and continuation in Monterey Bay.

- Initiation: Year 1
- Duration: Ongoing
- Products: Plan for population of CalCOFI transects in Cordell Bank and Gulf of the Farallones
- Partners: CalCOFI, MBARI, NMFS, ACCEO (aka PaCOS), NCCOS, SIMoN, UCSC

STRATEGY XC-EM 2—Establish a Joint Internal Monitoring Coordination Team

Overview

Coordination of monitoring activities among the sanctuaries requires an administrative infrastructure to identify and act on cross boundary opportunities, collaborate with large-scale initiatives, and interpret the results for resource managers and public audiences across the region. Adequate science staff must exist at each of the sanctuaries to support sanctuary specific and initiate cross-boundary activities. A research coordinator at each sanctuary is recommended as the minimum research staff required to support cross-boundary activities. The need for additional support to fulfill the tasks outlined in this action plan should be evaluated and could be achieved by sharing personnel resources among the three sanctuaries. The combined science staff of the three sanctuaries would constitute an internal monitoring coordination team responsible for facilitating monitoring coordination by participating in biannual meetings, establishing a communications system, assessing common platform and equipment needs, producing joint reports, and integrating with regional education and outreach activities.

- XC-EM 2. Establish a joint internal team comprised of science staff at each of the sanctuaries to coordinate monitoring activities and administration among the three sanctuaries. The team should serve as a model, which could be expanded to include the participation of all West Coast sanctuaries.
- 2.1. Review the monitoring recommendations set forth by the sanctuary specific working groups during the joint management plan review process. Priority common monitoring recommendation should be developed as cross-boundary monitoring activities. Lower priority activities and sanctuary specific recommendation should be used to inform the assessment of monitoring needs activities outlined in Strategy XC-EM 3.
 - Timeframe: Year 0
 - Product: monitoring plans and proposals
 - Partners: CBNMS, GFNMS, MBNMS, NMSP, SIMoN
 - 2.2. Establish avenues to improve communications among the sanctuaries and sanctuary partners.
 - Initiation: Year 1
 - Duration: Ongoing
 - Products: Sanctuary listserv, development of joint projects, research plans and proposals
 - Partners: SIMoN
 - 2.3. Identify common needs for monitoring platforms and equipment and evaluate opportunities for shared ownership and joint contracting.
 - Timeframe: Year 1
 - Products: Report of needs and plan for contracting, acquisition, and maintenance; building on the NMS Small Boat Report
 - Partners: Administrative working group, SIMoN, CINMS, OCNMS, West Coast Regional Manager, NMSP special assistant for vessel support
 - 2.4. Institute joint reporting of monitoring activities through an annual “state of the sanctuaries” report for cross-cutting monitoring activities among the three sanctuaries based on the SIMoN report.
 - Initiation: Year 2
 - Duration: Ongoing
 - Product: State of the sanctuaries report
 - Partners: SIMoN, SWiM, NMSP, NODC

- 2.5. Establish biannual meetings of the research coordinators to facilitate communication, interactions, and planning coordination. Topics should include, but not be limited to, research and monitoring schedules, ship time requests, and annual operating plans. One meeting should be arranged to coincide with the annual national research coordinators meeting to encourage the participation of research coordinators from Channel Islands, Olympic Coast, and Hawaiian Island Humpback Whale NMSs and the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve.
 - Initiation: Year 1
 - Duration: Ongoing
 - Products: Various plans and strategies for coordination (e.g., shiptime proposals, science annual operating plans, requests for proposals)
 - Partners: CINMS, OCNMS, HIHWNMS, NWHICRER NMSP
- 2.5.1. The research coordinator at Gulf of the Farallones currently has joint responsibility for coordinating research activities at Cordell Bank NMS. To ensure that the research needs of each of these sanctuaries are properly address and fully represented in cross-cutting ecosystem monitoring activities, a full time research coordinator should be in place at each of the sanctuaries. Therefore, a research coordinator should be hired for Cordell Bank NMS.
 - Initiation: Year 1
 - Duration: Ongoing
 - Products: position description, new FTE or FTE equivalent contractor at Cordell Bank NMS
 - Partners: NMSP
- 2.6. Evaluate cross boundary utilization of existing staff and need for additional staff or shared staff to provide support for research, monitoring, information management, GIS, reporting, and education/outreach connections across the three sanctuaries. The evaluation should consider all staffing requirements to fulfill the tasks outlined in this action plan, and make recommendations for additional sanctuary specific staff or shared staffing resources where appropriate. Priority consideration should be given to data management and GIS support for Cordell Bank and Gulf of the Farallones to address tasks outlined in XC-EM 3.5.
 - Timeframe: Year 1
 - Product: Staffing plan for each sanctuary and shared staffing strategy
 - Partners: Administrative working group, SIMoN, CINMS, OCNMS, West Coast Regional Manager, NMSP, NCCOS

STRATEGY XC-EM 3—Identify Shared Monitoring Needs

Overview

In addition to coordination of existing monitoring programs, cross boundary ecosystem monitoring activities should identify shared monitoring needs throughout the region and facilitate the development or expansion of appropriate monitoring activities. Because each sanctuary is an independent management entity responsible for evaluating the condition of its resources, cross-boundary ecosystem monitoring activities should be based on a comparison of the individual needs of each sanctuary.

In 2000, Monterey Bay NMS conducted a workshop to define priorities for a Sanctuary Integrated Monitoring Network (SIMoN). This resulted in a comprehensive assessment of monitoring activities and priorities in the Monterey Bay sanctuary. Similar assessments must be conducted for Cordell Bank and Gulf of Farallones NMSs to provide the foundation for further cross-boundary initiatives. The SIMoN workshop, materials, and information management infrastructure will serve as a model to facilitate assessments in the other two sanctuaries. Once the needs of each sanctuary are identified and compared, the benefits that can be achieved by coordination should be used to determine the appropriate level of coordination and establish priorities among common monitoring efforts.

- XC-EM 3. Assess monitoring needs with respect to management concerns and responsibilities at each of the sanctuaries.

- 3.1. Translate the activities and results for the 2000 SIMoN workshop into a process to identify monitoring requirements for Cordell Bank and Gulf of the Farallones.
 - Timeframe: Year 1
 - Product: Work shop process and template of monitoring needs
 - Partners: NMSP, SIMoN
- 3.2. Conduct monitoring needs assessment workshops for Cordell Bank and Gulf of the Farallones.
 - Timeframe: Year 2
 - Product: Monitoring needs matrices for Cordell Bank and Gulf of the Farallones
 - Partners: NMSP, SIMoN, NPS, USFW, USGS, California Fish & Game, UC Davis and Berkley, SFU, BML, California Academy of Science
- 3.3. Evaluate and identify ongoing funding opportunities to support regional and larger scale ongoing monitoring activities.
 - Timeframe: Year 2
 - Products: New partnerships; funding mechanisms; recommendation for a regional funding coordinator
 - Partners: SIMoN, NMSP, NCCOS, NMFS, FMSA, Monterey Bay Sanctuary Foundation
- 3.4. Combine and merge monitoring needs across all three sanctuaries and recommend evaluation of monitoring needs across all West Coast sanctuaries.
 - Timeframe: Year 3
 - Products: Regional monitoring needs report, West Coast monitoring needs report
 - Partners: NMSP, SIMoN, OCNMS, CINMS
- 3.5. Establish and populate “SIMoN style” databases at Cordell Bank and Gulf of the Farallones for cataloguing, accessing, and visualizing monitoring activities. SIMoN staff at Monterey Bay is currently producing an operational cataloguing, access, and visualization system for monitoring projects at MBNMS. NODC is assisting SIMoN in system development and with efforts to translate the system into a transferable model for development of similar information management systems at other sanctuaries.
 - Initiation: Year 2
 - Duration: Ongoing
 - Product: Populated SuperSIMoN, or individual SIMoN compatible databases at Cordell Bank and Gulf of the Farallones
 - Partners: NMSP, SIMoN, NODC, SeaMAP, IOOS
- 3.5.1. The transferable “SIMoN model” will provide a general framework, knowledge, and advice, but implementation of the model at Cordell Bank and Gulf of the Farallones will require additional technical expertise to adapt the model to sanctuary-specific needs and develop fully operational systems. Therefore, staffing should be expanded to support GIS and data management requirements at the two sanctuaries. Hiring should be phased with system development, with a GIS specialist and data manager initially sharing responsibility for the early activities at both sanctuaries. If full implementation warrants, dedicated staff should be hired for each sanctuary.
 - Initiation: Year 2
 - Duration: Ongoing
 - Products: position descriptions, new FTEs or FTE equivalent contractors at Cordell Bank and Gulf of the Farallones
 - Partners: NMSP, SIMoN, NODC

STRATEGY XC-EM 4—Establish a Joint Research Activities Panel

Overview

To assist the joint internal team with ongoing coordination of existing activities and identification of emerging opportunities, a joint research advisory panel (JRAP) should be established consisting of representatives from permanent RAP working groups of each of the sanctuary advisory councils (SACs). Two of the sanctuaries SACs do not currently have RAPs, and it is not within the authority of the sanctuaries to establish SAC working groups. However, sanctuaries should encourage the SACs to establish RAPs to advise and inform the management activities of the individual sanctuaries and participate in cross-boundary monitoring coordination.

XC-EM 4. Establish a joint research activities panel (JRAP) to advise and identify opportunities for coordinated monitoring activities.

- 4.1. Work with the SACs to expand research representation and recommend that sanctuary specific RAPs be established as a permanent working group of the SACs at Cordell Bank and Gulf of the Farallones.
 - Initiation: Year 1
 - Duration: Ongoing
 - Products: Increases research representation on the SACs; recommendation for RAPs at Cordell Bank and Gulf of the Farallones
 - Partners: MBNMS, NMSP
- 4.2. Establish avenues for communications among the RAPs for posting agendas and minutes for sanctuary-specific and joint meetings.
 - Initiation: Year 2
 - Duration: Ongoing
 - Product: RAP listserv
 - Partners: SIMoN
- 4.3. Institute biannual meetings of a subgroup of (~10) representatives from all three sanctuary specific RAPs.
 - Initiation: Year 2
 - Duration: Ongoing
 - Product: meeting summaries, recommendations, joint proposals and research plans
 - Partners: NMSP, NCCOS

STRATEGY XC-EM 5—Establish an External Review Panel

Overview

To ensure efficiency, effectiveness, and credibility of cross-boundary ecosystem monitoring activities, the program must be reviewed periodically by independent and objective experts in the fields of monitoring and information management. An external review panel should be established to conduct a review of the cross-boundary ecosystem monitoring activities prior to the next management plan review.

XC-EM 5. Establish a standing external monitoring review panel (ERP) to advise the sanctuaries and joint RAP and evaluate the efficiency and effectiveness of the ecosystem monitoring activities.

- 5.1. Work with the joint RAP to define the purpose and secure members of the ERP.
 - Timeframe: Year 3
 - Product: Statement of purpose, structure, and responsibilities for ERP
 - Partners: NMSP SWiM panel
- 5.2. Establish avenues for communications among the sanctuaries, RAPs, and ERP.
 - Initiation: Year 3
 - Duration: Ongoing
 - Product: ERP listserv
 - Partners: SIMoN

- 5.3. Convene a formal review meeting of the Joint RAP and ERP every five years to complete a program review and identify priority opportunities for program coordination, expansion, and development based on a review monitoring needs and current activities.
 - Timeframe: Year 4
 - Product: Joint monitoring program review and recommendations for additional ecosystem monitoring coordination, expansion, and development and strategies for implementation
 - Partners: NMSP SWIM panel, SIMoN, RAPs

STRATEGY XC-EM 6—Develop a Regional West Coast Technical Assistance Center

Overview

The technical requirements to support long-term monitoring coordination across the region exceed the collective resources of the three sanctuaries. However, the common needs to support integrated activities can serve as a justification for regional coordination and technical support personnel. Personnel could be located at individual sanctuaries or other appropriate institutions but would constitute a sanctuary technical assistance center to support individual sanctuaries and facilitate cross-boundary activities. Support should logically extend to encompass the technical needs of all the West Coast sanctuaries. Establishment of such a center would create a regional monitoring infrastructure that could to serve as a model for large-scale coordination within the sanctuary system.

- XC-EM 6. Develop of a Regional West Coast technical assistance center to provide support for the sanctuaries (e.g., large-scale coordination, data archiving, metadata, statistical analysis, and information management).
- 6.1. Evaluate technical staff support needs common to all West Coast sanctuaries.
 - Timeframe: Year 1
 - Product: Technical support plan including justification and responsibilities of regional support team and position descriptions for regional science director and research, data management, and GIS support
 - Partners: SIMoN, OCNMS, CINMS, West Coast Regional Manager, NMSP special assistant for vessel support, NODC, CIMT, IOOS, PISCO, MMUG, NCCOS, UC Santa Cruz and Davis, SFSU, BML, NURP, ACT

Index of Ecosystem Monitoring Acronyms

ACCEO	Alliance for California Current Ecosystem Observation
ACT	Alliance for Coastal Technologies
BML	Bodega Marine Laboratory
CalCOFI	California Cooperative Oceanic Fisheries Investigations
CBNMS	Cordell Bank National Marine Sanctuary
CIMT	Center for Integrated Marine Technology
CINMS	Channel Islands National Marine Sanctuary
COASST	Coastal Observation And Seabird Survey Team
COMBERS	Coastal Ocean Mammal/Bird Education and Research Surveys
FMSA	Farallones Marine Sanctuary Association
GFNMS	Gulf of the Farallones National Marine Sanctuary
GLOBE	Global Learning and Observation to Benefit the Environment
HIHWNMS	Hawaiian Islands Humpback Whale National Marine Sanctuary
IOOS	Integrated Ocean Observing Systems
LIMPETS	Long-term Monitoring Project and Experiential Training for Students
MARINE	Multi-Agency Rocky Intertidal Network
MBARI	Monterey Bay Aquarium Research Institute
MBNMS	Monterey Bay National Marine Sanctuary
MMS	Minerals Management Service
MMUG	Marine Mapping User Group
NCCOS	National Centers for Coastal Ocean Science
NMFS	National Marine Fisheries Service
NMS	National Marine Sanctuary
NMSP	National Marine Sanctuary Program
NODC	National Oceanographic Data Center
NPS	National Park Service
NURP	National Undersea Research Program
NWHICRER	North West Hawaiian Islands Coral Reef Ecosystem Reserve
OCNMS	Olympic Coast National Marine Sanctuary
PaCOS	Pacific Coastal Observing System
PBRO	Point Reyes Bird Observatory
PISCO	Partnership for Interdisciplinary Studies of Coastal Oceans
RAP	Research Activities Panel
SAC	Sanctuary Advisory Council
SCCWRP	Southern California Coastal Water Research Project Authority
SFU	San Francisco State University
SIMoN	Sanctuary Integrated Monitoring Network
SNAPSHOT	Snapshot Water Quality Monitoring Event
SWiM	System-Wide Monitoring
UC	University of California
UCSC	University of California Santa Cruz
USFW	US Fish and Wildlife Service
USGS	US Geological Service



CROSS-CUTTING ISSUE:
MARITIME HERITAGE
Recommendation to the CBNMS Sanctuary Advisory Council
from the Cross-cutting Maritime Heritage Working Group

Goal Statement

The National Marine Sanctuary Act mandates the management and protection of submerged archaeological sites. Therefore, the National Marine Sanctuary Program (NMSP) is identifying submerged heritage resources and developing education and preservation plans regarding these resources. Program efforts include: conducting paleo-ecological and archaeological studies; inventorying, locating, and monitoring both historic shipwrecks and those that pose an environmental threat to sanctuary marine resources; and characterizing and protecting heritage resources.

This plan provides the framework for a Maritime Heritage Resources Program that addresses such underwater sites, as well as traditional heritage resources such as Native American and fishing communities, commercial marine transport of passengers and cargo, and recreational activities like diving, surfing, and boating. Although protection status is given only to archaeological resources, traditional user and ocean dependent groups are interconnected with the sanctuaries.

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Introduction

The area encompassed by the Cordell Bank National Marine Sanctuary (CBNMS), the Gulf of the Farallones National Marine Sanctuary (GFNMS), and the Monterey Bay National Marine Sanctuary (MBNMS) is rich in cultural and archaeological resources, and has a long and interesting maritime history.

The history of California's Central Coast is predominantly a maritime one. From the days of the early Ohlone inhabitants to the present, coastal waterways remain a main route of travel and supply. Ocean-based commerce and industries (e.g., fisheries, extractive industries, export and import, and coastal shipping) are important to the maritime history, the modern economy, and the social character of this

region. For example, regional fishing communities dating back to the middle of the 19th century are distinctive for their rugged, individualistic culture born of a hard and sometime dangerous life at sea harvesting fish. The fishing boats, fish houses, and other parts of the fishery infrastructure lend to the character of the West Coast sanctuaries as does the knowledge possessed by working men and women of the ocean waters they ply for their livelihoods.

Ports such as San Francisco and Monterey, and smaller coastal harbor towns, developed through fishing, shipping, and economic exchange. Today these have become major urban areas, bringing large numbers of people in proximity to National Marine Sanctuaries. Many of these people are connected to the sanctuaries through commercial and recreational activities such as surfing, boating, and diving.

During public scoping meetings the need for CBNMS, GFNMS, and MBNMS to protect and to better educate the public about maritime heritage resources was identified.

Problem Statement

Modern researchers could illuminate many aspects of our predecessors' lives through careful excavation and analysis of submerged remains located in the CBNMS, GFNMS, and MBNMS. Archaeological sites are sealed time capsules that provide windows to the past, allowing us to glimpse earlier peoples and the ways they lived, worked, played, and died. Sanctuary waters, likewise, hold remains of our ancestor's past lives. The sea floor preserves remnants of the sites where people lived and of the vessels in which they conducted trade and fought wars. Ships, boats, wharves, lighthouses, lifesaving stations, whaling stations, prehistoric sites, and a myriad other heritage treasures lie covered by water, sand, and time.

Records indicate that 430 vessel and aircraft losses were documented between 1595 and 1950 along California's Central Coast from Cambria north to Bodega Head, including the Farallon Islands: 173 in the GFNMS, 257 in the MBNMS; and to date none documented within the CBNMS. Some sites have been located and inventoried by NOAA and the National Park Service in the GFNMS region. The GFNMS and MBNMS have also collaborated with state and federal agencies, and the private sector to gather resource documentation and to create opportunities to locate and record submerged archaeological resources. MBNMS has recently contracted services to complete a shipwreck inventory from established shipwreck databases and review of primary and secondary source documentation. These studies provide a foundation for an inventory of the historic resources in the sanctuaries.

The GFNMS and MBNMS, and possibly CBNMS, are now faced with a new challenge of identifying and monitoring historic and non-historic shipwrecks that may pose environmental threats to sanctuary marine resources. Lurking in the deep are the hazardous cargoes, abandoned fuel, and unexploded ordnance inside sunken vessels that are slowly deteriorating in a corrosive marine environment. Shipwrecks already identified as a concern are the oil tanker *USS Montebello* (near the MBNMS) that may retain over three million gallons of unrefined crude oil and the C-3 freighter *Jacob Luckenbach* (GFNMS) containing Bunker-C fuel oil. In 2002, the U.S. Coast Guard contracted the removal of 85,000 gallons of Bunker-C fuel from the *Jacob Luckenbach*.

Action Plan Implementation

CBNMS, GFNMS, and MBNMS are just beginning to design efforts to ensure public awareness, understanding, appreciation, and wise and sustainable use of the historical, cultural, and archaeological resources. A well-coordinated program will be required to identify and assess documented shipwrecks, some of which may pose significant environmental hazards; to protect sites from unauthorized disturbance; and to develop heritage partnerships and education programs.

Submerged Site Inventory and Assessment Initiative

NMSP regulations mandate that archaeological resources be managed consistent with the Federal Archaeological Program. The NMSP's Submerged Cultural Resources Program (SCRIP) was established in 2002 to emphasize the need for research, education, outreach, and protection of heritage resources. Issues to be addressed regarding the protection of submerged archaeological resources include site protection, permitting, and shipwrecks as environmental threats. GFNMS and MBNMS will partner with

the Channel Island National Marine Sanctuary (CINMS) on its Shipwreck Reconnaissance Program (SRP) in California waters to record submerged sites using avocational archaeologists, remotely operated vehicles (ROV), and manned submersibles. The SRP develops underwater site maps and archaeological reports, conducts annual site monitoring, and recommends appropriate sites for inclusion to the National Register for Historic Places. NOAA Maritime Heritage Resources staff at NMSP, and in various sanctuaries, can provide a resource that the sanctuaries can draw from in planning maritime heritage programs and in mitigating impacts to resources.

Shipwrecks as Environmental Threats

GFNMS and MBNMS both coordinate with the Damage Assessment Restoration Fund and other relevant agencies. GFNMS and MBNMS will work with CINMS to expand their efforts to identify shipwrecks that may pose environmental threats and will provide pertinent information to NOAA's HAZMAT division and the National Marine Sanctuary Program for the development of SHIELDS (Sanctuaries Hazardous Incident Emergency Logistics Database System) and RUST (Resources and Under Sea Threats) database systems.

Site Protection

As submerged shipwreck sites are inventoried in CBNMS, GFNMS, and MBNMS and become more visible to the public, they are also more at risk from divers wishing to loot artifacts. CBNMS, GFNMS, and MBNMS will consider enhancing visitor usage while mitigating damage to heritage resources by providing the sport and commercial diving communities and visitors to shoreline sites with interpretive information about archaeological sites and their protection. Sanctuary and California State regulations prohibit the unpermitted disturbance of submerged archaeological and historical resources. The NMSP and California State Lands Commission have an archaeological resource recovery permit system in place. Protection and monitoring of these sites will become a more pronounced responsibility in the sanctuaries' heritage resources management program. Partnerships will be established with local law enforcement agencies for site monitoring and compliance of public access to submerged sites. The sanctuaries will designate a contact person(s) to coordinate with the California State Historic Preservation Office (SHPO) to ensure that permit guidelines, under the Archaeological Resources Protection Act, are followed.

Traditional User and Ocean Dependent Groups

There is the potential to cultivate partnerships with local, state, and federal programs (e.g., American Folk Life Center, universities, Department of the Interior) and the identified communities. These partnerships could aid in the design and implementation of studies of living maritime heritage and folk life to help educate the public about traditional cultures and practices including Native Americans, other ethnic residents, fishermen and economic activities reflecting historic human interaction with the ocean.

Education and Outreach

CBNMS, GFNMS, and MBNMS have partnered with CINMS in the development of the West Coast Shipwreck Database online curriculum. The database serves to inform the public about the historical significance of shipwrecks, including those that pose environmental threats to sanctuary marine resources, i.e. *Jacob Luckenbach* story. The database is being expanded to include living journals that assist families searching for information about shipwrecked vessels that their relatives may once have served on as crewmember or passenger. Family members are encouraged to share with the public their living journals associated with the shipwreck histories for dissemination. CBNMS, GFNMS, and MBNMS will identify partners to explore exhibit development at maritime or regional museums and learning centers that focus on the areas' maritime heritage history; shipwrecks, exploration, fishing, and fisheries; vessel trades, routes and nationalities; shoreline structures such as lighthouses, lifesaving stations, canneries, whaling facilities, surfing, and boating.

Strategy XMHR-1: Maritime Heritage Resources Program Establishment

The National Marine Sanctuary Program is placing increasing emphasis on the development of maritime heritage resources programs to identify and protect submerged archaeological sites, and to increase public awareness about the maritime history associated with individual sanctuaries. CBNMS, GFNMS, and MBNMS are just beginning to design efforts to ensure public awareness, understanding, appreciation, and wise and sustainable use of the historical, cultural, and archaeological resources.

A well-coordinated program will be required to identify and assess documented shipwrecks, some of which may pose significant environmental hazards; to protect sites from unauthorized disturbance; and to develop heritage partnerships and education programs.

Activity 1.1 : Develop the Foundation and Infrastructure of a MHR Program

Work with sanctuary managers on whether this program and its staffing will be a site-specific or a shared endeavor, among the sanctuaries.

Status: Phase 1

Activity 1.2: Incorporate Maritime Heritage Resources Program and Action Plan Strategies Into the Annual Operating Plans (AOP) of GFNMS, MBNMS, and CBNMS for Implementation

Status: Phase 1

Activity 1.3: Identify and Pursue Additional Sources of Funding (beyond NMSP)

This funding should support sanctuary, and other, maritime heritage resource efforts, such as:

- ☐ Exhibits
- ☐ Research
- ☐ Archaeological field work, survey
- ☐ Outreach and education

Status: Phase 2

Activity 1.4: Identify and Assist Partners Doing Maritime Heritage Related Work to Obtain Funding and Resources

Status: Phase 1-Identify program coordinator(s) and develop infrastructure: Within 6 months of final plan. Phase 2-Identify appropriate strategies for AOP: Spring 2004 (for FY2005) and annually thereafter.

Strategy XMHR-2: Submerged Site Inventory and Assessment Initiative

With the passage of the National Historical Preservation Act (NHPA) in 1966, federal agencies are responsible for protecting the heritage resources on public lands and within their aegis. NHPA directs federal land management agencies to inventory historic and archaeological resources and to assess them for eligibility to the National Register of Historic Places.

The CBNMS, GFNMS, and MBNMS will collaborate with state and federal agencies, and the private sector to gather resource documentation and to create opportunities to locate and record submerged archaeological resources. This effort will also be coordinated with NOAA's Maritime Archaeology Center (MAC).

Activity 2.1: Establish External Partnerships to Inventory Potential Shipwreck Sites

Establish partnerships with other federal, state, and local agencies as well as avocational archaeologists, commercial divers and fishermen, and recreational divers to identify and inventory potential shipwreck sites.

- A. Review primary and secondary source documentation including established shipwreck databases
- B. Interview commercial divers and fishermen, recreational divers and avocational archaeologists
- C. Review and update existing site characterizations and shipwreck assessments

Status: Phase 1

Activity 2.2: Conduct Systematic Research and Survey for Archaeological Sites

Archaeological sites include the remains of prehistoric-as well as historic sites that represent ship and aircraft losses.

Status: Phase 2

Activity 2.3: Establish Geographic Regions for High Probability of Cultural and Historic Remains

Conduct remote sensing surveys and/or diver investigations of target sites.

Status: Phase 2

Activity 2.4: Develop Underwater Site Maps and Archaeological Reports

Status: Phase 2

Activity 2.5: Establish Site Monitoring Program

Document new artifact discoveries and evaluation of human site disturbance.

Status: Phase 2

Activity 2.6: Record Site Positions in GFNMS/MBNMS/NOAA's ARCH Geographic Information Systems (GIS)

Status: Phase 2

Activity 2.7: Establish a Shipwreck Reconnaissance Program

Use a model similar to CINMS, to record and monitor submerged sites.

Status: Phase 2

Activity 2.8: Assess and Nominate Appropriate Submerged Archaeological Sites for Inclusion to the National Register of Historic Places

Status: Phase 3

Strategy XMHR-3: Shipwrecks and Submerged Structures Hazard Assessment

Strategy Description

The GFNMS and MBNMS, and possibly CBNMS, are now faced with a new challenge of identifying and monitoring historic and non-historic shipwrecks that may pose environmental threats to sanctuary marine resources. Information pertaining to shipwrecks as environmental threats is provided to NOAA's HAZMAT division and the Office of National Marine Sanctuaries for the development of SHIELDS (Sanctuaries Hazardous Incident Emergency Logistics Database System) and RUST (Resources and Under Sea Threats) database systems. The sanctuaries will develop a plan to address this issue since there are many shipwrecks that pose threats in the near future.

Activity 3.1: Establish an Inventory of Shipwrecks

Document shipwrecks inside and outside of Sanctuary boundaries, which may pose environmental threats to Sanctuary marine resources.

Status: Phase 1

Activity 3.2: Review Primary and Secondary Source Documentation from Established Shipwreck Databases

Status: Phase 1

Activity 3.3: Interview Commercial Divers and Fishermen, and Recreational Divers Who Frequently Visit Submerged Shipwrecks

Status: Phase 1

Activity 3.4: Integrate, Collaborate with Others Doing Similar Research on Hazard Assessments

Status: Phase 1

Activity 3.5: Coordinate Exchange of Information Pertaining to Shipwrecks as Environmental Threats
Coordinate activities between NOAA's HAZMAT division and the Office of National Marine Sanctuaries for the development of SHIELDS (Sanctuaries Hazardous Incident Emergency Logistics Database System) and RUST (Resources and Under Sea Threats) database systems.

Status: Phase 1

Activity 3.6: Recommend Target Shipwreck Sites to be Located
Conduct reconnaissance dives and report findings to federal and state trustees.

Status: Phase 2

Activity 3.7: Establish a Monitoring Program for Shipwreck Sites
Direct efforts to monitor sites that have been located and are considered a threat to sanctuary marine resources.

Status: Phase 2

Activity 3.8: Develop Protocols for Site Evaluation
Include a timeline for future site monitoring.

Status: Phase 2

Activity 3.9: Coordinate with Partners to Reduce Threats
Coordinate with partners to develop a plan to prevent, reduce, and respond to environmental threats from these vessels.

Status: Phase 2

Activity 3.10: For Historic Shipwrecks, Ensure Compliance Under Section 106 of the National Historic Preservation Act (NHPA) and the National Marine Sanctuary Act (NMSA)

- A. Compile and Review Final Reports of Post Site Disturbance Documentation and/or Archaeological Site Reports
- B. Provide California State Historic Preservation Office with Final Report

Status: Phase 2

Strategy XMHR-4: Submerged Archaeological Resources Protection and Management

Strategy Description

The National Marine Sanctuary Program regulations mandate that archaeological resources be managed consistent with the Federal Archaeological Program. The NMSP's Submerged Cultural Resources Program (SCRIP) was established in 2002 to emphasize the need for research, education, outreach, and protection of heritage resources. Issues to be addressed by GFNMS, MBNMS, and possibly CBNMS, regarding the protection of submerged archaeological resources include:

- ☐ Permitting
- ☐ Site Protection through Enforcement and Education
- ☐ Shipwrecks as Environmental Threats

Activity 4.1: Develop Protocol to Manage, Monitor, and Protect Submerged Sites

Status: Phase 1

Activity 4.2: Provide Training to Sanctuary Staff and Facilitate Training Partners

Focus on the importance of submerged archaeological resources and the need and tools to manage and protect them.

Status: Phase 1

Activity 4.3: Identify Partnerships with Local Law Enforcement Agencies

Site monitoring and compliance of public access to submerged sites.

Status: Phase 1

Activity 4.4: Develop and Implement an Interpretive Enforcement Program

Status: Phase 2

Activity 4.5: Identify Archaeological and Historic Resources Currently Outside Sanctuary Boundaries

Explore appropriateness of expanding boundaries to protect site(s) as maritime heritage resources (e.g., the USS *Montebello*, sunk by a Japanese submarine in 1941, 1.6nm south of the MBNMS near Cambria, others TBD).

Status: Phase 2

Activity 4.6: Investigate Potential for Mooring System

Collaborated with affected parties (e.g. USCG, fishing communities)

Status: Phase 3

Strategy XMHR-5: Maritime Heritage of Traditional User and Ocean Dependent Groups

Strategy Description

A key aspect of the CBNMS, GFNMS, and MBNMS maritime heritage program will be to educate the public about traditional maritime cultures and practices including Native Americans; ethnic groups; whalers; historic and present-day fishermen; recreational uses; and traditional shipping, shipbuilding, canneries, and other economic activities reflecting historic human interaction with the ocean. Although protection status is given only to archaeological resources, traditional user and ocean dependent groups are interconnected with the sanctuaries. Therefore, this program will also acknowledge those traditional heritage activities and practices that are consistent with the National Marine Sanctuary Act, such as sustainable fishing methods and recreational uses.

Activity 5.1: Identify Traditional User and Ocean Dependent Groups

Status: Phase 1

Activity 5.2: Solicit Traditional User and Ocean Dependent Groups' Ideas, Values, etc.
Use this information to prioritize appropriate aspects of their maritime heritage.

Status: Phase 1

Activity 5.3: Promote Historical, Anthropological, and Ethnographic Research
Focus on traditionally associated people to support mapping and interpretive programs.

Status: Phase 1

Activity 5.4: Create an Inventory of Historic and Present Maritime Heritage Communities
Assess and nominate appropriate sites for the National Register of Historic Places.

Status: Phase 1

Activity 5.5: Conduct a Literature Search and Gather Resource Documentation

Status: Phase 1

Activity 5.6: Map and Document Traditional Communities and Sites

These may include:

- ☐ Fishing and whaling
- ☐ Shipping/commercial marine transport of passengers and cargo
- ☐ Lighthouses, life-saving stations
- ☐ Tribal (coastal)
- ☐ Recreational uses such as surfing and diving

Status: Phase 1

Activity 5.7: Develop Collaborative Programs and Initiatives

These may include:

- ☐ Sustainable seafood events
- ☐ Adopt-A-Boat-classrooms are paired up with active fishermen to learn about maritime heritage (SEA-Grant in Maine does this now)
- ☐ Historic re-enactments at harbors, Native American village sites

Status: Phase 2

Strategy XMHR-6: Education and Outreach Programs

Strategy Description

Maritime Heritage provides a unifying theme to educate and inform people along the California coast and throughout the country about the historic human interaction with the ocean. Through websites, museum exhibits, and other tools, the Sanctuaries will provide information on:

- ☐ Programs by and about traditional cultures and practices including Native Americans, ethnic groups, fishermen, and economic activities
- ☐ Shipwrecks, exploration, fishing and fisheries; trade vessels, routes and nationalities
- ☐ Shoreline structures such as lighthouses, life-saving stations, canneries, whaling facilities
- ☐ Traditional recreational activities such as diving, surfing, and boating
- ☐ Stewardship of our cultural and historic maritime resources

Activity 6.1: Improve Information Sharing and Dialogue

Improve the dialog between CBNMS, GFNMS, MBNMS and traditional users/ocean dependent groups regarding issues that may impact them as “living maritime heritage communities.”

Status: Phase 1

Activity 6.2: Create, Expand and Populate Individual Sanctuary Websites

Include specific information about maritime heritage resources, such as:

- ☐ Shipwreck Database
- ☐ Living journals of traditional users and ocean dependent groups as well as shipwreck survivors
- ☐ Archaeological project updates
- ☐ Potential environmental threats
- ☐ Maps

Status: Phase 1

Activity 6.3: Develop and Implement Education and Outreach Programs for the Maritime Heritage Program

Status: Phase 2

Activity 6.4: Incorporate Traditional Users/Ocean Dependent Groups and Submerged Archaeological Resources Throughout Existing and New Sanctuary Education/Outreach Programs (e.g., lectures, brochures, exhibits, posters)

Status: Phase 2

Activity 6.5: Collaborate on Potential Maritime Heritage Resource Exhibits

Status: Phase 2

Activity 6.6: Investigate and Develop Opportunities with Partners to Interpret Maritime Heritage Sites to the Public

Examples include:

- ☐ Exhibits, kiosks and displays at museums, visitor and learning centers, other attractions
- ☐ Trails, signage, videos, etc.
- ☐ Public lectures

Status: Phase 2

Potential Partners (all strategies):

Federal agencies

- ☐ Other National Marine Sanctuaries - Olympic Coast, Channel Islands, Thunder Bay, Hawaiian Islands
- ☐ NOAA National Marine Fisheries Service
- ☐ NOAA Maritime Archaeology Center (MAC)
- ☐ NOAA Office of Exploration
- ☐ NOAA Hazardous Materials Response Division (HAZMAT)
- ☐ NOAA Office of Response and Restoration
- ☐ U.S. Coast Guard
- ☐ U.S. Geological Survey
- ☐ U.S. Environmental Protection Agency
- ☐ U.S. Navy
- ☐ National Park Service - Point Reyes National Seashore, Golden Gate National Recreational Area,
- ☐ San Francisco Maritime National Historic Park, Advisory Council For Historic Preservation
- ☐ Minerals Management Service

State agencies

- ☐ California Department of Parks and Recreation (State Parks)
- ☐ California State Lands Commission
- ☐ California Department of Transportation (Caltrans)
- ☐ California Department of Fish and Game, Office of Spill Prevention and Response (OSPR)
- ☐ California State Historic Preservation Office (SHPO)

Non-governmental organizations

- ☐ Nautical Archaeology Society (NAS)
- ☐ American Folklife Center
- ☐ Native American groups - Rumsian, Ohlone, Federated Indians of Graton Rancheria, etc.
- ☐ Multi-cultural historical societies
- ☐ Universities and research institutions – graduate projects, internships etc.
- ☐ Maritime Museum of Monterey
- ☐ Other maritime museums, natural history museums and historical societies
- ☐ San Mateo Coast Natural History Association (SMCNHA)
- ☐ Coastal Maritime Archaeology Resources (CMAR)
- ☐ Pacific Coast Federation of Fishermen's Associations (PCFFA)
- ☐ Half Moon Bay Fisherman's Marketing Association (HBFMA)
- ☐ Alliance of Communities For Sustainable Fisheries
- ☐ Farallones Marine Sanctuary Association (FMSA)
- ☐ Monterey Bay Sanctuary Foundation (MBSF)
- ☐ Recreational user group associations, local dive groups in central California



CROSS-CUTTING

Internal Team

RECOMMENDATIONS

- I.
Administration
- II.
Boundary Modifications



CROSS-CUTTING ISSUE: ADMINISTRATION

Recommendation to the CBNMS Sanctuary Advisory Council
from the Cross-cutting Administration Internal Team

Goal Statement

The goals of cross-cutting administration and operations for the joint management plan review are to 1) improve coordination and cooperation across the three sanctuaries to better and more efficiently manage and protect sanctuary resources, and 2) start working and functioning as an integrated team. Fulfilling these goals for the three sanctuaries requires enhancing communication and collaboration among and between managers and program staff.

This Action Plan was developed by an internal NMSP staff team.

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Introduction

Cordell Bank, Gulf of the Farallones and Monterey Bay National Marine Sanctuaries are located adjacent to one another along a 350-mile stretch of the north-central California coast. All three sanctuaries are managed by the National Marine Sanctuary Program (NMSP), share many of the same resources and issues, and have some overlapping interest and user groups. There are many opportunities for these sites to work cooperatively, share assets, and address resource management issues in a coordinated manner.

The three sanctuaries continue to coordinate on many important resource management issues, such as oil spills and volunteer monitoring. However, each site is, for the most part, managed independently of each other. The three sanctuaries have separate administrative staffs, Sanctuary Advisory Councils, and independent education, research and resource protection programs. As a result, opportunities to maximize collaborations and share resources have not fully been realized.

During scoping meetings held in 2001, the NMSP received many comments relating to the need to coordinate various administration and operations across the sites. The three Sanctuary Advisory Councils (SACs) and Sanctuary staff identified several of these issues as priority items to address in the management plan review. These include:

- ☐ Improve resource management consistency and efficiency
- ☐ Expand coordination and communication between sites and to the public
- ☐ Evaluate emergency response capabilities in the region and clarify and coordinate the sanctuaries' role in relation to other agencies
- ☐ Develop a mechanism to address current and emerging issues between the sites
- ☐ Coordinate research/monitoring, education/outreach, and enforcement activities

This cross-cutting action plan was developed to build upon existing coordination efforts and identify those activities that must be done so that these three sites operate as three integrated and complementary sites in order to better protect the resources and be responsive to the public. Note: Education/outreach and research/monitoring issues are addressed in the cross-cutting community outreach and ecosystem monitoring working groups.

Strategy XAO-1: Internal Communication

Strategy Description

Successful collaboration and coordination are directly related to the amount and intensity of communication. Though individual sanctuary staff may communicate on an as needed basis through e-mail, telephone or meetings, there is no established mechanism to bring together the managers or staff to proactively discuss issues that may affect multiple sites. This strategy focuses on improving communications between the sites to ensure there are regular opportunities for the managers, staff and the SACs to learn what is happening at each of the three sites and jointly plan regional programs and activities when appropriate.

Activity 1.1: Improve Communications Between the Sanctuary Managers

- G. Engage in more informal (randomly pick up the phone and call) and formal communications (regularly scheduled calls and meetings)
- H. Meet once per quarter to: 1) improve communication, 2) conduct Annual Operating Plan (AOP) planning; and 3) assess the implementation of AOPs and the JMPR Action Plans.

Activity 1.2: Improve Communication Between Sanctuary Staff at the Three Sites

- A. Schedule one regional sanctuary update and team building activity per year. Provide updates on activities at each site and identify how staff can help support the other site's programs and staff.
- B. Create a new employee orientation program that includes information from the other sites and the NMSP. The program should include travel to the other sites to meet staff and learn about their programs. Explore ways to integrate efforts with the NMSP's Communication Branch.
- C. Coordinate the planning and implementation of programs and products, where appropriate, across all three sites according to program area (research/monitoring, education/outreach, resource protection). The program coordinators will meet (separately by program area or together) at least once per year to share information and plan joint activities.

Activity 1.3: Improve Coordination and Communication Between the Sanctuary Advisory Councils (SACs)

- A. Revise the SAC Charters, as necessary, so that the sanctuary managers participate in each other's SACs as non-voting members.
- B. Schedule one joint SAC meeting, where all three SACs meet in the first year. At that meeting, the SACs will determine the necessity and frequency of future joint meetings.
- C. Encourage and provide opportunities for site staff to give presentations at each other's Sanctuary Advisory Council meetings.

Strategy XAO-2: Program Operations Improvements

Strategy Description

Each of the three sanctuaries have been designated for over 10 years and during this time have accumulated an inventory of equipment, vessels (ranging from two motorized boats to several kayaks), and resources to support their own research/monitoring, education/outreach, and resource protection programs. This strategy recognizes that there are instances in which it is more cost-effective to share resources among the sites and some instances when it may be more appropriate for each site to have their own. The sites will inventory their existing resources and jointly develop a needs assessment to document what is required to implement these management plans. This strategy also calls for the sites to coordinate and provide opportunities to conduct field operations and to conduct an assessment in order to better cooperate and share facilities, signage and exhibits.

Activity 2.1: Maximize Opportunities to Share Equipment and Vessels

- A. Develop a list of existing equipment, vessels and resources based on the revised management plans that could be shared between sites.
- B. Develop a list of needed equipment, vessels and resources based on the revised management plans that could be shared between sites.

Activity 2.2: Coordinate Field Operations

Contact and inform the other sites early in the planning stages of field operations to provide opportunities to plan joint missions and to share information and data.

Activity 2.3: Maximize Opportunities to Share Facilities, Signage and Exhibits

- A. Develop a NMSP North-Central California Regional Facilities Plan to coordinate sanctuary facilities (including offices, visitor centers, research facilities), signage, and exhibits.
- B. Implement specific projects and activities identified in the NMSP North-Central California Regional Facilities Plan (see 2.3.1). This phase should fund the development, construction and placement of facilities (offices, visitor centers, research facilities), signs, exhibits, or kiosks.

Strategy XAO-3 – Program Administration Improvements

Strategy Description

Currently each sanctuary office is responsible for managing its own administration and information technology functions, including contracts, procurements, time and attendance, travel orders and vouchers, websites, databases, and geographic information systems. Each site employs a varying number of staff or contractors to perform some or all these tasks. The goal of this strategy is to evaluate the staffing plans at the sites, maximize opportunities to share personnel, and implement methods to make routine administrative functions more efficient. The strategy also highlights the importance of building upon existing efforts to share information technology resources.

Activity 3.1: Maximize Opportunities to Share Personnel

- A. Review the staffing plans at each sanctuary to determine if collaborations are possible to create efficiencies, fill gaps, share staff resources, and complete specific projects. This review will explore ways to overcome barriers for both contractors and FTEs to participate.
- B. Based on the review above and as opportunities arise, encourage short-term opportunities for staff exchanges, rotations, details and informal staff loans for specific projects.
- C. Based on the review, and as opportunities arise, create or use shared position(s) to fulfill on-going need(s) across all three sites.
- D. Participate in each other's interview panels to review candidates for new and vacant positions, where possible.

Activity 3.2: Implement Methods to Make Routine Administrative Functions More Efficient

- A. Assess the need and feasibility of sharing staff and/or reassigning administrative work to improve efficiency (i.e., procurements, contracting and grant management, time and attendance, and/or travel order/voucher functions).
- B. Depending upon the results of the assessment, hire or dedicate an existing staff person to perform duties identified above.

Activity 3.3: Build Upon Existing Efforts to Share Information Technology (IT) Resources

- A. Share a Geographic Information System (GIS) specialist position to support site-specific and regional database and mapping needs. As GIS becomes more integrated with site management, this arrangement will be evaluated to determine if it is effective.

- B. Share a Webmaster to meet site-specific and regional web needs and coordinate with headquarters IT/Web personnel.
- C. Assess the different types of existing databases and determine how the sites can best develop compatible formats where appropriate. Also explore how best to store, manage, and share common and compatible databases.

Strategy XAO-4: Resource Protection Program Coordination

Strategy Description

Each of the three site-specific management plans proposes various strategies to address their own resource protection programs (i.e., regulations/permitting, emerging issues, enforcement, emergency response). This strategy is aimed at improving the communication and coordination of resource protection activities and programs across the three sites. The strategy addresses the need to improve internal understanding and awareness of regulatory and permit processes and activities. Secondly, it establishes a process to identify and, when appropriate, jointly address emerging issues in a regional capacity. Third, it recommends the development of a regional sanctuary emergency response plan so that the NMSP is better prepared to address emergencies on a regional scale. Finally, it identifies the need to comprehensively evaluate enforcement needs in relation to the new management plans and develop and implement a regional enforcement plan.

Activity 4.1: Improve Staff Awareness and Understanding of Each Site's Regulations and Permits

- A. Establish a basic and consistent understanding of each site's regulations and ensure that everyone knows where to direct questions relating to specific regulations and permits.
- B. Inform the other sites of any new permit applications or other activities that could impact any of the sanctuaries.

Activity 4.2: Coordinate on Emerging Issues

- A. As the sites identify an emerging issue, determine its significance and potential to impact another site, and communicate this to the potentially affected site(s).
- B. Jointly determine if a new or emerging issue needs action and identify a strategy and activities to address the issue, depending on whether it is an immediate or long-term threat, what is (or is not) known about it, and if there are adequate resources to address it properly.

Activity 4.3: Develop a coordinated sanctuary emergency response plan

- A. Develop a coordinated Sanctuary emergency plan that describes how the three sanctuaries will internally coordinate and respond to emergencies including: oil spills, hazardous material spills, vessel groundings, plane crashes, and natural disasters. The plan should address broad emergency response issues that affect the region, identify NMSP staffing responsibilities and expertise, and outline how the NMSP will coordinate with existing Federal, State and local emergency response agencies in California. The plan will be developed to utilize the existing Incident Command System (ICS), the U.S. Coast Guard's Area Contingency Plan (ACP).
- B. Coordinate with the NMSP National Programs Resource Protection Team on populating and making SHIELDS (Sanctuary Hazardous Incident Emergency Logistics Database System) functional and operative for the north-central California sanctuaries.

Activity 4.4: Coordinate efforts to more effectively and efficiently enforce regulations that affect Sanctuary resources.

- A. Develop a comprehensive enforcement plan for the three-sanctuary area that evaluates enforcement needs to implement these management plans and integrates existing formal and

informal enforcement networks across the region. The plan should also include a consistent enforcement penalty schedule and an internal communication strategy.

- B. Implement the comprehensive enforcement plan developed above.



CROSS-CUTTING ISSUE: **BOUNDARY ISSUES**

Recommendation to the CBNMS Sanctuary Advisory Council
from the Cross-cutting Boundary Issue Internal Team

Goal Statement

To bring together key NMSP staff and work through a process designed by the group that will generate a supportable and logical resolution to two boundary issues using clear and concise analytical thinking and teamwork.

NMSP Staff Contact

Mitchell Tartt Ecologist

Objectives

- ☐ To develop and implement an analytical process designed to determine a set of boundary alternatives relative to the MBNMS/GFNMS shared boundary using the best available information and resources.
- ☐ To prepare an appropriate set of boundary alternatives (including a preferred alternative), evaluations of each alternative, and recommendations for action to be presented to the Sanctuary Advisory Councils of the MBNMS and GFNMS for their review and comment.
- ☐ To develop and implement an analytical process designed to evaluate the inclusion of the existing San Francisco/Pacifica exemption area in NMSP jurisdiction using the best available information and resources.

Team Products

- ☐ A set of criteria to evaluate boundary issues. (It is anticipated that this set could be used in other boundary development processes as reference/starting point.)
- ☐ A framework to guide development and selection of boundary alternatives.
- ☐ A set of boundary, administrative, and/or regulatory alternatives that address the shared boundary of the GFNMS and MBNMS, including a preferred alternative, and explanation for each.
- ☐ A set of boundary, administrative, and/or regulatory alternatives that address the San Francisco/Pacifica exemption area, including a preferred alternative, and explanation for each; or an Action Plan that documents an extended evaluation and review of this issue.
- ☐ A Findings Report from the Team for the SAC of each site that documents all work and recommendations of the Internal Team regarding each boundary issue.
- ☐ A Final Boundary Evaluation Report for presentation to the NMSP Director. This report will include the Findings Report prepared by the Team and comments/recommendations from each of the site SACs

Introduction

As a component of the Joint California Management Plan Review Process (JMPR), the National Marine Sanctuary Program (NMSP) has assembled a crosscutting internal team (Team) to address two boundary issues relating to the Gulf of the Farallones and Monterey Bay National Marine Sanctuaries (GFNMS and MBNMS, respectively). These issues will be addressed and action plans created during the JMPR. Further, a Team Findings Report will be prepared and presented to each Sanctuary Advisory Council (SAC), and a Final Boundary Evaluation Report will be prepared and presented to the NMSP Director for review and action. The Final Evaluation Report will include detailed information on the data and information considered in the evaluation, information on the process and methodologies used in the evaluation, and recommendations of the Team on actions relating to the two issues before the Team, as well as review comments and information from each SAC.

Further information on the two boundary issues, the general process for this work, and information on the Team is described below.

Issues

Issue 1: GFNMS and MBNMS Co-terminus Boundary

Since designation in 1992, the northern portion of the Monterey Bay National Marine Sanctuary has been under co-management with the Gulf of the Farallones National Marine Sanctuary. Despite continued efforts to implement a shared management structure, this arrangement has resulted in confusion with some communities as to which site is ultimately responsible for managing and protecting the resources in this area. The NMSP received many comments throughout the public scoping period and the SAC prioritization workshops requesting that the program resolve the ongoing northern MBNMS/southern GFNMS boundary issue in the joint management plan review (JMPR).

Issue 2: The San Francisco/Pacifica Exemption Area

In conjunction with the GF/MB boundary issue, the Team will review the existing San Francisco/Pacifica exemption area in the northern region of the MBNMS. NOAA excluded this area as part of the original MBNMS Sanctuary designation in 1992 due to concerns regarding contamination from the San Francisco Municipal combined sewer overflow discharge plume. The Team will provide an evaluation of the issue and determine whether the area should be included for NMSP protection.

Process - Phase 1

The NMSP will assemble the Team to evaluate administrative, ecological, physical, biogeographic, and socioeconomic factors and determine whether there is a need to modify the existing sanctuary boundaries. A Sanctuary Advisory Council (SAC) representative from each site (GFNMS and MBNMS) will attend all meetings as observers. See Boundary Team Participants/Observers for further information on SAC involvement in this phase of the process.

This phase will include three steps: 1) an evaluation of existing data and information from a wide range of categories 2) considerations of administrative and regulatory changes that may be warranted to increase the NMSP's ability to effectively manage these marine areas; 3) a final assessment of boundary alternatives should the first two steps of the process indicate that a shift in the location of a boundary is warranted. The evaluation will provide a basis for determining optimal boundary, administrative, and/or regulatory scenarios that will promote maximum efficiency in engaging local communities and protecting sanctuary resources.

Process - Phase 2

Upon the completion of the Team's evaluation, the Team will present a Findings Report to each SAC. Each SAC will be given the opportunity to provide input on the range of recommendations and actions discussed in the Findings Report. All SAC comments will be submitted back to the Team, and a Final Evaluation Report will be produced that includes the complete Findings Report, all SAC comments, and any necessary supportive information. This Final Evaluation Report will be presented to the NMSP Director for review, and action.

Project Status

The Findings Report will be presented to the MBNMS Advisory Council at their June meetings in Monterey.



Appendices

- A.
Advisory Council Membership
- B.
List of Acronyms
- C.
Working Group Binning Procedure
- D.
CBNMS Regulations

Appendix A – CBNMS Advisory Council Membership

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Appendix B – List of Acronyms

ACP	Area Contingency Plan (USCG)
ACR	Audubon Canyon Ranch
ACS	American Cetacean Society
AOP	Annual Operating Plan
APPS	U.S. Act to Prevent Pollution from Ships
ATOC	Acoustic Thermometry of Ocean Climate
BLM	Bureau of Land Management
BML	Bodega Marine Laboratory
BMP	Best Management Practices
Cal EPA	California Environmental Protection Agency
CalCOFI	California Cooperative Oceanic Fisheries Investigations
CalTrans	California Department of Transportation
CAS	California Academy of Sciences
CBNMS	Cordell Bank National Marine Sanctuary
CBSOA	California Boating Safety Officers Association
CCC	California Coastal Commission
CCR	California Code of Regulations
CCRWQBC	Central Coast Regional Water Quality Control Board
CDBW	California Department of Boating and Waterways
CDF	California Department of Forestry
CDFG	California Department of Fish and Game
CDPR	California Department of Parks and Recreation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CINMS	Channel Islands National Marine Sanctuary
CMAR	Coastal Maritime Archaeology Resources
COASST	Coastal Observation And Seabird Survey Team
CODAR	Coastal Ocean Dynamics Applications Radar
COE	U.S. Army Corps. Of Engineers
CSC	Coastal Services Center
CSLC	California State Lands Commission
CSUMB	California State University Monterey Bay
CWA	U.S. Clean Water Act
CZMA	Coastal Zone Management Act
DDT	Dichlorodiphenyltrichloroethane
DEIS	Draft Environmental Impact Statement
DMP	Draft Management Plan
DOC	United States Department of Commerce
DOI	United States Department of the Interior
DPR	California Department of Parks and Recreation
EEZ	U.S. Exclusive Economic Zone
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESNERR	Elkhorn Slough National Estuarine Research Reserve

Cordell Bank National Marine Sanctuary- Working Group Recommendations
Appendix B- List of Acronyms

FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FCG	Fish and Game Commission
FEIS/MP	Final Environmental Impact Statement and Management Plan
FES	Friends of the Elephant Seal
FKNMS	Florida Keys National Marine Sanctuary
FMP	Fishery Management Plan
FMSA	Farallones Marine Sanctuary Foundation
FSO	Friends of the Sea Otter
FWCPA	Federal Water Pollution Control Act
GFNMS	Gulf of the Farallones National Marine Sanctuary
GGNRA	Golden Gate National Recreation Area
GIS	Geographic Information Systems
GPS	Global Positioning System
GSA	General Services Administration
HDD	Horizontal Directional Drilling
HIHWNMS	Hawaiian Islands Humpback Whale National Marine Sanctuary
ICS	Incident Command System
IFQ	Individual Fishing Quota
ITQ	Individual Transferable Quota
IUCN	International Union for Conservation of Nature and Natural Resources
JMPR	Joint Management Plan Review
LCP	Local Coastal Program
LiMPETS	Long-term Monitoring Program and Experiential Training for Students
MAC	Maritime Archaeology Center (NOAA)
MARE	Marine Activities, Resources, and Education
MARPOL	The International Convention for the Prevention of Pollution from Ships
MATE	Marine Advanced Technology Education (Center)
MBA	Monterey Bay Aquarium
MBARI	Monterey Bay Aquarium Research Institute
MBNMS	Monterey Bay National Marine Sanctuary
MERITO	Multicultural Education for Resource Issues Threatening Oceans
MGD	Million Gallons per Day
MHW	Mean High Water
MHWL	Mean High Water Line
MLMA	Marine Life Management Act
MLML	Moss Landing Marine Laboratories
MLPA	Marine Life Protection Act
MMPA	Marine Mammal Protection Act
MMS	Minerals Management Service
MPA	Marine Protected Area
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MSD	Marine Sanitation Device
MSFCMA	Magnuson Stevens Fishery Conservation and Management Act
NANPCA	Nonindigenous Aquatic Nuisance Prevention and Control Act
NAS	Nautical Archaeology Society
NASA	National Aeronautics and Space Administration
NCCOS	The National Centers for Coastal Ocean Science

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NEPA	National Environmental Policy Act
NGO	Non-governmental organization
NHPA	National Historic Preservation Act
NISA	National Invasive Species Act of 1996
NM	Nautical Mile
NMFS	National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act
NMSF	National Marine Sanctuaries Foundation
NMSP	National Marine Sanctuary Program
NOAA OLE	NOAA Office of Law Enforcement
NOAA	National Oceanic and Atmospheric Administration
NODC	National Oceanographic Data Center
NPDES	National Pollutant Discharge Elimination System
NPR	National Public Radio
NPS	National Park Service
NPS	Naval Postgraduate School
NPS	Non Point Source Pollution
NURP	National Undersea Research Program (NOAA)
OCNMS	Olympic Coast National Marine Sanctuary
OCRM	Office of Coastal Resource Management (NOAA)
OES	Office of Emergency Services
OMS	Office of Marine Sanctuaries
OSPR	(Office of) Oil Spill Prevention and Response (CDFG)
PCB	Polychlorinated biphenyls
PCFFA	Pacific Coast Federation of Fishermen's Associations
PCLC	Pacific Coast Learning Center
PFMC	Pacific Fishery Management Council
PISCO	Partnership for Interdisciplinary Studies of Coastal Oceans
PSA	Public Service Announcement
PSMFC	Pacific States Marine Fisheries Commission
PRBO	Point Reyes Bird Observatory
PRNS	Point Reyes National Seashore
PRNSA	Point Reyes National Seashore Association
RBOC	Recreational Boaters of California
RCRA	U.S. Resource Conservation and Recovery Act
ROV	Remotely Operated Vehicle
RUST	Resources and Under Sea Threats (NMSP database system)
RWQBC	Regional Water Quality Control Board
SAC	Sanctuary Advisory Council
SBNMS	Stellwagen Bank National Marine Sanctuary
SCRP	Submerged Cultural Resources Program (NMSP)
SEALS	Sanctuary Education Awareness and Long-term Stewardship
SFSU	San Francisco State University
SFU	San Francisco State University
SHIELDS	Sanctuaries Hazardous Incident Emergency Logistics Database System
SHPO	California State Historic Preservation Office
SIMoN	Sanctuary Integrated Monitoring Network (MBNMS)
SMCNHA	San Mateo Coast Natural History Association
SNAPSHOT	Snapshot Water Quality Monitoring Event
SRP	Shipwreck Reconnaissance Program (CINMS)

Cordell Bank National Marine Sanctuary- Working Group Recommendations
Appendix B- List of Acronyms

SST	Sea Surface Temperature
SWiM	System Wide Monitoring Program (NMSP)
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Loads
TMMC	The Marine Mammal Center
UCD	University of California Dava
UCSC	University of California Santa Cruz
USACE	U.S. Army Corps. Of Engineers
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WRP	Western Regional Panel on Aquatic Nuisance Species

Appendix C – Working Group Binning Procedure

The Process of Dividing Recommended Programs into Priority Bins

After the working group ranked their recommended programs by the six criteria, the staff converted the 6 letter tallies to a priority bin. Categorizing the programs into bins shows how the working group prioritized the list of potential programs. This document outlines how the Sanctuary staff determined the distribution of program rankings into bins.

The Binning Procedure

Each of the letters within a tally are given a numerical count, with the highest letter A equal to 3, B equal to 2, and C equal to 1. Of the six criteria, Site Benefits and Urgency are higher priority than the others and thus are weighted more heavily by multiplying the rank in those criteria by 2. By adding up the numerical tally according to these rules, each program is given a numerical score. This score corresponds to a bin. The range of scores corresponding to each bin is determined by dividing the overall range of scores into three sub-ranges.

An Example

For example, the program “Tracking and Commenting on Land-based Discharges into the Sanctuary” earned the tally ACAABA (letters are listed in order of criteria, i.e. the first letter corresponds to Criteria #1: Site Benefits). Applying the formula $A=3$, $B=2$, $C=1$ and multiplying by 2 the rankings for Criteria #1: Site Benefits and Criteria #6: Urgency to give them additional weight, we add up the numerical score to be $3(2)+1+3+3+2+3(2)= 21$. The overall range of numerical scores for this set of programs is 14-24. This can be divided into 3 bins as 14-17=Bin 3, 18-20=Bin 2, and 21-24= Bin 1. Thus with the numerical score of 21, this program falls into Bin 1.

The Meaning of Each Bin

Bin #1 is the highest ranked bin. A program in Bin 1 was judged by the working group to confer major site benefits, be of high urgency, and not overly complex or difficult to implement. By weighting Site Benefits and Urgency, a program that has high site benefits and urgency but requires major additional resources will likely fall into Bin 1. A program in Bin 1 is very likely to be recommended to the Sanctuary Advisory Council for inclusion in the management plan.

Bin #2 is the medium ranked bin. A program in Bin 2 was judged by the working group to deliver moderate site benefits and be of lesser urgency in comparison to programs in Bin 1. A program in Bin 2 may also be highly complex and require major additional resources to implement. Programs in Bin 2 may or may not be recommended to the Sanctuary Advisory Council for inclusion in the management plan. It is the responsibility of the working group to determine which of these programs will be recommended.

Bin #3 is the lowest ranked bin. A program in Bin 3 was judged by the working group to deliver minor site benefits for the resources required for implementation. Programs in Bin 3 are not likely to be recommended for inclusion in this management plan but may be retained and recommended for future management plans.

Appendix D – CBNMS Regulations

Please see next page